

TXD010803203

Permit

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ACRA PERMITS PROGRAM

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



CLASS 3 COMPLIANCE PLAN MODIFICATION
TO
COMPLIANCE PLAN NO. 50236
SAFETY-KLEEN SYSTEMS INC - MISSOURI CITY

Compliance Plan No. 50236 is hereby modified as follows:

Continuation Sheet 3 of 24

Section I.F. General Information

This section is revised to read as follows: All dates in this Compliance Plan shall be referenced to the date of issuance of this Compliance Plan by the Texas Commission on Environmental Quality unless otherwise specified. This Compliance Plan was developed based on the Compliance Plan Application dated June 12, 2001 and Class 3 modification dated October 1, 2007 and revised December 3, 2007 and February 28, 2008.

Continuation Sheet 8 of 24

Section VI.B.1. Sampling and Analysis Plan

This section is revised to read as follows: Wells shall be sampled according to the Sampling and Analysis Plan dated February 12, 2008. The Sampling and Analysis Plan is hereby incorporated into the Compliance Plan by reference as if set out fully herein. The Permittee or the Executive Director shall propose modifications as necessary to the Sampling and Analysis Plan. Any and all revisions to the plan shall become conditions of this Compliance Plan at the beginning of the first quarter following approval by the Executive Director.

Continuation Sheet 18 of 24

Section XI. Financial Assurance

This section is revised to read as follows: The Permittee shall provide financial assurance for operation of the Ground-Water Monitoring and Corrective Action Programs, as applicable, in accordance with this Compliance Plan in a form acceptable to the Executive Director in an initial amount not less than \$42,856 within ninety (90) days of issuance of this Compliance Plan. The financial assurance shall be secured, maintained, and adjusted in compliance with TCEQ regulations on hazardous waste financial requirements (30 TAC §335.152 and §335.167 and 40 CFR Part 264 Subpart H).

Continuation Sheet 21 of 24

Table II CORRECTIVE ACTION PROGRAM Table of Detected Hazardous and Solid Waste Constituents and Concentration Limits for the Ground-Water Protection Standard

Replace the current Table II with the attached revised Table II - CORRECTIVE ACTION PROGRAM Table of Detected Hazardous and Solid Waste Constituents and the Ground-Water Protection Standard.

Continuation Sheet 22 of 24

Table III CORRECTIVE ACTION PROGRAM Table of Indicator Parameters and Concentration Limits for the Ground-Water Protection Standard

Replace the current Table III with the attached revised Table III - CORRECTIVE ACTION PROGRAM Table of Indicator Parameters and Ground-Water Protection Standard.

Continuation Sheet 23 of 24

Table IV Designation of Wells by Function

Replace the current Table IV with the attached revised Table IV – Designation of Wells.

Sheet 2 of 2 Attachment A

Replace the current Attachment A, Sheet 2 of 2, with attached revised Attachment A, Sheet 2 of 2.

This Class 3 Compliance Plan Modification is part of Compliance Plan No. 50236 and should be attached thereto.

Issued Date: **JUL 30 2008**



For the Commission

TABLE II - CORRECTIVE ACTION PROGRAM
 Table of Detected Hazardous and Solid Waste Constituents and
 the Ground-Water Protection Standard

	COLUMN A Hazardous Constituents	COLUMN B Ground-Water Protection Standards (mg/l)
1. Area AA		
	Benzene	0.005 ¹
	Chlorobenzene	0.1 ¹
	1,1-Dichloroethane	15 ¹
	1,2-Dichloroethene (total)	0.07 ¹
	Ethyl benzene	0.7 ¹
	Methyl Ether Ketone (MEK)	44 ¹
	Methyl Isobutyl Ketone (MIBK)	5.8 ¹
	Tetrachloroethene	0.005 ¹
	Trichloroethene	0.005 ¹
	Toluene	1.0 ¹
	Xylene (total)	10 ¹
	Vinyl Chloride	0.002 ¹
	Cadmium	0.01 ²
	Lead	0.05 ²

Foot Note:

- ^{GW}GW_{Ing Com/Ind} --Alternate Concentration Limit pursuant to 30 TAC §335.160(b) based upon the Protective Concentration Level (PCL) determined under Remedy Standard A or B (Residential or Commercial/Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table. In accordance with §350.72(b), ^{GW}GW_{Ing}, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1×10^{-4}) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.
- MCC - Alternate Concentration of Constituents for groundwater protection specified in Table I of 30 TAC §335.160.

TABLE III - CORRECTIVE ACTION PROGRAM
Table of Indicator Parameters and
Ground-Water Protection Standard

	COLUMN A Hazardous Constituents	COLUMN B Ground-Water Protection Standard (mg/l)
1. Area AA		
	Chlorobenzene	0.1 ¹
	Xylene	10 ¹

Foot Note:

- 1 ^{GW}GW_{Ing Com/Ind} -- Alternate Concentration Limit pursuant to 30 TAC §335.160(b) based upon the Protective Concentration Level (PCL) determined under Remedy Standard A or B (Residential or Commercial/Industrial) for Class 1 or Class 2 Groundwater ingestion PCL of 30 TAC Chapter 350. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table. In accordance with §350.72(b), ^{GW}GW_{Ing}, PCLs may need to be adjusted to lower concentrations to meet the cumulative carcinogenic risk level (less than or equal to 1×10^{-4}) and hazard index criteria (less than or equal to 10) when there are more than 10 carcinogenic and/or more than 10 noncarcinogenic chemicals of concern within a source medium.

TABLE IV
Designation of Wells

POINT OF COMPLIANCE WELLS

1. MW-8
2. MW-9
3. RW-1

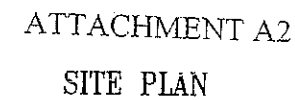
POINT OF EXPOSURE WELLS

1. MW-3
2. MW-5
3. MW-6
4. MW-11

BACKGROUND WELLS

1. MW-7

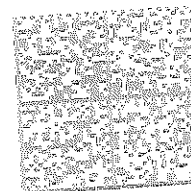
Note: Wells and piezometers identified on Attachment A maps that are not listed in this table are subject to change, upon approval by the Executive Ddirector, without modification to the Compliance Plan.





Chief Clerk's Office, MC 105
Texas Commission on
Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

JAN 25 2008



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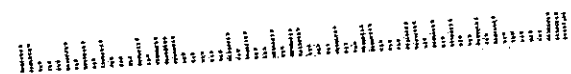
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01/23/2008

Mailbox 78763
US POSTAGE

ENVIRONMENTAL PROTECTION AGENCY
RCRA PERMITS 6PD-O
1445 ROSS AVE
DALLAS TX 75202-2733

752022733 0054



Tx, 008113441

Permit
Ticona

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08 JUN 10 PM 5:37

TCEQ PERMITS PROGRAM

Bishop Facility
Highway 77 South
P.O. Box 428
Bishop, TX 78343

NOTICE OF CLASS 1¹ PERMIT MODIFICATION

PERMIT NO. HW-50123

APPLICATION. Ticona Polymers, Inc., 1.5 miles South of Bishop, Texas on Bus. Highway, 77, Bishop, Texas 78343, a chemical manufacturing plant, has submitted to the Texas Commission on Environmental Quality (TCEQ) a Class 1¹ modification to Permit No. 50123 which would remove two (2) waste streams which are no longer generated at the facility and to modify the facility's Waste Analysis Plan accordingly.

Specifically, the requested changes would remove wastes currently numbered as Wastes No. 2 (East Lab Reagent Solvents, TCEQ Waste Code 0003207H) and 15 (Regisil-Pyridine, P.E. and TMP, Texas Waste Code 0108204H).

INFORMATION. Individual members of the general public may contact the Office of Public Assistance, c/o Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087, or by calling 1-800-687-4040 to: (a) review or obtain copies of available documents (such as the draft permit and the application); (b) inquire about the information in this notice; or (c) inquire about other agency permit applications or permitting processes. General information regarding the TCEQ can be found at the TCEQ's web site at www.tceq.state.tx.us.

Ticona

Highway 77 South
P.O. Box 428
Bishop, TX 78343

RECEIVED

08 JUN 10 PM 5:26

NON-PROFIT ORGANIZATION
ENVIRONMENTAL PROTECTION AGENCY
RCRA PERMITS 6PD-O
1445 ROSS AVENUE
DALLAS, TEXAS 75202-2733



U.S. POSTAGE



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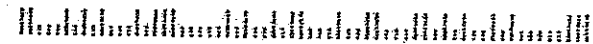
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Celanese

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A business of Celanese

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



23 MAY 22 PM 5:00
TCEQ PERMITS PROGRAM

**NOTICE OF APPLICATION AND PRELIMINARY DECISION
FOR INDUSTRIAL NONHAZARDOUS AND HAZARDOUS WASTE COMPLIANCE
PLAN MODIFICATION**

COMPLIANCE PLAN NO. 50236

APPLICATION AND PRELIMINARY DECISION. Safety-Kleen Systems, Inc., 1580 Industrial Boulevard, Missouri City, Texas 77489-1007, a commercial industrial and hazardous waste management facility, has applied to the Texas Commission on Environmental Quality (TCEQ) for a Class 3 Modification to a compliance plan requesting to change the Groundwater-Protection Standard and the current corrective action System. The facility is located in Missouri City, Fort Bend County, Texas. The TCEQ received this application on October 8, 2007.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft compliance plan. The draft compliance plan, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this compliance plan, if issued, meets all statutory and regulatory requirements. The compliance plan application, Executive Director's preliminary decision, and draft compliance plan are available for viewing and copying at the Fort Bend County Library – Missouri City Branch, 1530 Texas Parkway, Missouri City, Fort Bend County, Texas 77489-2170.

PUBLIC COMMENT / PUBLIC MEETING. The applicant held a public meeting at 3:00 on March 4, 2008. You may submit additional public comments or request another public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. Unless the application is directly referred for a contested case hearing, the response to comments will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting a contested case hearing or reconsideration of the Executive Director's decision. A contested case hearing is a legal proceeding similar to a civil trial in a state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name; address, phone; applicant's name and permit number; the location and distance of your property/activities relative to the facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; and the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify an individual member of the group who would be adversely affected by the facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission will only grant a contested case hearing on disputed issues of fact that are relevant and material to the Commission's decision on the application. Further, the Commission will only grant a hearing on issues that were raised in timely filed comments that were not subsequently withdrawn.

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the compliance plan and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 within 45 days from the date of newspaper publication of this notice.

AGENCY CONTACTS AND INFORMATION. If you need more information about this application or the process, please call the TCEQ Office of Public Assistance, Toll Free, at 1-800-687-4040. The permittee's compliance history during the life of the permit being modified is available from the Office of Public Assistance. Si desea información en Español, puede llamar al 1-800-687-4040. General information about the TCEQ can be found at our web site at www.TCEQ.state.tx.us.

Further information may also be obtained from Safety-Kleen, Systems, Inc. at the address stated above or by calling Mr. Bruce Daniel at: (281) 240-0154.

Issuance Date: MAY 15, 2008

JAN 25 2008

Permit
T&D010803203

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN CLASS 3 MODIFICATION TO COMPLIANCE PLAN NO. 50236

APPLICATION. Safety-Kleen Missouri City Branch, 1580 Industrial Blvd., Missouri City, Fort Bend County, Texas 77489, has applied to the Texas Commission on Environmental Quality (TCEQ) for a Class 3 Compliance Plan Modification in order to change the Groundwater Protection Standard (GWPS) chemical constituent concentrations from nondetectable (ND) to Texas Risk Reduction Program (TRRP) Tier 1 Groundwater Permissible Concentration Levels (PCLs) for groundwater ingestion in commercial/industrial areas. The modification will also change the monitor wells to be sampled. The facility is located about 500 feet north of US Alt. 90 and Pike Road in Missouri City, Fort Bend County, Texas. This application was submitted to the TCEQ on October 8, 2007. The compliance plan application is available for viewing and copying at the Fort Bend County Library-Missouri City Branch, 1530 Texas Parkway, Missouri City, Fort Bend County, Texas.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft compliance plan and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. The applicant will hold a public meeting on this application on:

Date: March 4, 2008

Time: 6pm

Location: Fort Bend County Library-Missouri City Branch,
1530 Texas Parkway, Missouri City, Fort Bend County, Texas

You may submit public comments or request that the TCEQ hold a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing. A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and permit number; the location and distance of your property/activities relative to the facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify an individual member of the group who would be adversely affected by the facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

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AGENCY CONTACTS AND INFORMATION. All written public comments and requests must be submitted to the Office of the Chief Clerk, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087. If you need more information about this application or the permitting process, please call TCEQ Office of Public Assistance, Toll Free, at 1-800-687-4040. The permittee's compliance history during the life of the permit being modified is available from the Office of Public Assistance. Si desea información en Español, puede llamar al 1-800-687-4040. General information about TCEQ can be found at our web site at www.tceq.state.tx.us.

Further information may also be obtained from Safety-Kleen at the address stated above or by calling Mr. Bruce Daniel at (281) 240-0154.

Issued: January 18, 2008

Texas Commission on Environmental Quality
Investigation Report
Safety-Kleen Systems, Inc.
CN600128128

SAFETY-KLEEN MISSOURI CITY 6 073 02

RN100717677

Investigation # 899057

Incident #

Investigator: CHARLES BURNER

Site ClassificationTREATMENT STORAGE DISPOSAL
FACILITY

Conducted: 02/16/2011 -- 02/16/2011

SIC Code: 7389

NAIC Code: 532299

Program(s): INDUSTRIAL AND
HAZARDOUS WASTE

Investigation Type : Compliance Invest File Review

Location : 1580 Industrial Rd, Missouri City,
TXAdditional ID(s) : 50236
TXD010803203
71144Address: 1580 INDUSTRIAL DR;
MISSOURI CITY, TX 77489Activity Type : REGION 12 - HOUSTON
IHWRR - Record review of information submitted to the
agency

WST IHW/ INSPECTION REPORTS 2/16/2011

1st: 71144 2nd: Vol: 001

BBC: 100353843

IBC: 100353847

Principal(s) :

Role

Name

RESPONDENT

SAFETY-KLEEN SYSTEMS INC

Contact(s) :

Role

Title

Name

Phone

Regulated Entity Contact

ENVIRONMENTAL,
HEALTH & SAFETY
MANAGERMR RICARDO
SAUCEDO PE

Work (210) 648-7066

Cell (210) 241-2619

Regulated Entity Mail Contact

ENVIRONMENTAL HEALT
& SAFETY MANAGERMR RICARDO
SAUCEDO PEOther Staff Member(s) :

Role

Name

Supervisor
QA ReviewerJASON YBARRA
ANDREW SLYAssociated Check ListChecklist Name

IHW - FILE REVIEW

Unit Name

IHW RR

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APR 12 2011

TCEO
CENTRAL FILE ROOMInvestigation Comments :

INTRODUCTION

On February 16, 2011, Charles Burner, Environmental Investigator of the Texas Commission on

Environmental Quality (TCEQ) Region 12 Office conducted an Industrial Solid Waste Record Review Investigation for Safety-Kleen Systems Inc., Pasadena (SK). The investigation was conducted to evaluate the facility's February 9, 2011 submittal (Attachment 1), documenting corrective actions for two outstanding additional issues cited in a TCEQ letter mailed to the facility on October 15, 2010 (Attachment 2).

BACKGROUND INFORMATION

On July 20, 2010, a Comprehensive Groundwater Monitoring Evaluation (CME) Investigation was conducted at the subject facility. During the CME five Additional Issues (AIs) were noted as documented in TCEQ Investigation Report No.: 841283. The August 11, 2010 Summary of Investigation Findings letter to the facility required corrective action for the five AIs, and documentation of the corrective action be submitted to the Agency by September 30, 2010. The facility responded to the October 15, 2010 letter by submitting corrective action documentation to the Agency on September 23, 2010. The September 23, 2010 response resolved three of the five outstanding AIs, and discussed ongoing corrective action for the remaining two AIs.

The February 9, 2011 submittal documents completion of the corrective actions for the two outstanding AIs as discussed below.

RESOLVED ADDITIONAL ISSUES

1. Groundwater elevation maps prepared for recent sample events appear to show an anomalous rise in well RW-1. This rise appears to have occurred one time prior to the July 2009 event, when an approximate two foot rise above the other monitoring wells was measured during the July 2007 sample event. In the current sample event, the wells showed an approximate 6.22 foot rise above the other wells.

The September 23, 2010 facility response stated that the RW-1 well vault will be removed and replaced with a concrete pad and new manhole cover. Documentation of this corrective action will be submitted to the TCEQ upon completion. This additional issue will be resolved upon receipt of documentation of the corrective action.

The February 9, 2011 submittal documents that the vault has been removed and replaced with a concrete pad with appropriate cover. The additional issue is considered resolved.

2. Monitor well MW-12 is not listed in the current compliance plan; however, the well is depicted on the ATC Associates map attached to the compliance plan with an offsite location. The property where the well is located appears to be posted with a for sale sign, and the site around the well is being used as a storage yard. Additionally, the well does not appear to be accessible from Safety-Kleen property.

On September 20, 2010, the facility submitted a letter to the TCEQ Remediation Division requesting that well MW-12 be abandoned. Documentation of the well abandonment will be submitted to the TCEQ upon completion. This additional issue will be resolved upon receipt of documentation of the corrective action.

The February 9, 2011 submittal documents that monitoring well MW-12 was properly plugged and abandoned after Agency approval. The additional issue is considered resolved.

No Violations Associated to this Investigation

Additional Issues

Description

Item one.

Additional Comments

Groundwater elevation maps prepared for recent sample events appear to show an anomalous rise in well RW-1. This rise appears to have occurred one time prior to the July 2009 event, when an approximate two foot rise above the other monitoring wells was measured during the July 2007 sample event. In the current sample event, the wells showed an approximate 6.22 foot rise above the other wells.

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Item two.

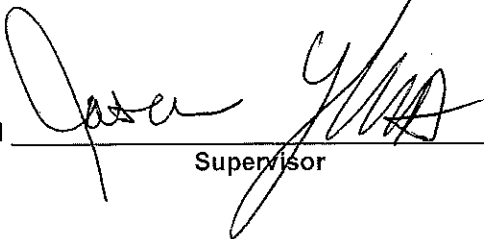
Monitor well MW-12 is not listed in the current compliance plan; however, the well is depicted on the ATC Associates map attached to the compliance plan with an offsite location. The property where the well is located appears to be posted with a for sale sign, and the site around the well is being used as a storage yard. Additionally, the well does not appear to be accessible from Safety-Kleen property.

On September 20, 2010, the facility submitted a letter to the TCEQ Remediation Division requesting that well MW-12 be abandoned. Documentation of the well abandonment will be submitted to the TCEQ upon completion. This additional issue will be resolved upon receipt of documentation of the corrective action.

The February 9, 2011 submittal documents that monitoring well MW-12 was properly plugged and abandoned after Agency approval. The additional issue is considered resolved.

Signed 
Environmental Investigator

Date 03/11/2011

Signed 
Supervisor

Date 03/11/2011

Attachments: (in order of final report submittal)

☐ Enforcement Action Request (EAR)

☐ Maps, Plans, Sketches

☒ Letter to Facility (specify type) : Final Decision

☐ Photographs

☐ Investigation Report

☐ Correspondence from the facility

☐ Sample Analysis Results

☒ Other (specify) :

☐ Manifests

Cost of Attorneys

☐ NOR

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 11, 2011

Mr. Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager
Safety-Kleen Systems Inc
5243 Sinclair Road
San Antonio, Texas 78222

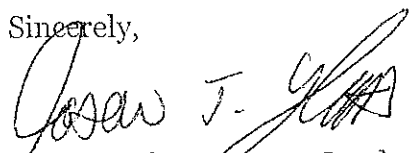
Re: Record Review Investigation:
Safety-Kleen, Missouri City, 1580 Industrial Dr, Missouri City (Fort Bend), Texas 77459
TCEQ SWR No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

The Texas Commission on Environmental Quality (TCEQ) Houston Region Office has received the compliance documentation that you submitted on February 9, 2011 for the two outstanding additional issues noted during the Comprehensive Groundwater Monitoring investigation (CME) of the above-referenced facility conducted on July 20, 2010. The compliance documentation contained in your response appears to indicate that corrective action has been completed for the Additional Issues, as documented in the attached summary of investigation findings.

The TCEQ appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact Mr. Charles Burner in the Houston Region Office at (713) 767-3616.

Sincerely,


Jason T. Ybarra, Team Leader
Waste Section
Houston Region Office

JTY/CCB/tp

Enclosure: Summary of Investigation Findings

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Missouri City,
1580 Industrial Dr, Missouri City (Fort Bend), Texas 77459
TCEQ SWR No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203
Investigation Date: February 16, 2011

SUMMARY OF RESOLVED ADDITIONAL ISSUES

1. Groundwater elevation maps prepared for recent sample events appear to show an anomalous rise in well RW-1. This rise appears to have occurred one time prior to the July 2009 event, when an approximate two foot rise above the other monitoring wells was measured during the July 2007 sample event. In the current sample event, the wells showed an approximate 6.22 foot rise above the other wells.

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2. Monitor well MW-12 is not listed in the current compliance plan; however, the well is depicted on the ATC Associates map attached to the compliance plan with an offsite location. The property where the well is located appears to be posted with a for sale sign, and the site around the well is being used as a storage yard. Additionally, the well does not appear to be accessible from Safety-Kleen property.

On September 20, 2010, the facility submitted a letter to the TCEQ Remediation Division requesting that well MW-12 be abandoned. Documentation of the well abandonment will be submitted to the TCEQ upon completion. This additional issue will be resolved upon receipt of documentation of the corrective action.

The February 9, 2011 submittal documents that monitoring well MW-12 was properly plugged and abandoned after Agency approval. The additional issue is considered resolved.

TCEQ ID # 71144, EPA ID # TXD010803203, Permit #50236

LIST OF ATTACHMENTS

ATTACHMENT 1

TCEQ October 15, 2010 Letter

ATTACHMENT 2

February 9, 2011 Facility Submittal

ATTACHMENT 1



February 9, 2011

Mr. Dylan Lawson
Project Manager
Texas Commission on Environmental Quality
Corrective Action Team 1, VCP-CA Section
Remediation Division
P.O. Box 13087
Austin, Texas 78711-3087

RECEIVED

FEB 11 2011

REGION 12

Subject: Plugging & Abandonment of Monitoring Well MW-12
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, Texas
TCEQ ID No.: 71144, TCEQ Compliance Plan No. CP-50236
EPA ID No.: TXC0108003203

Dear Mr. Lawson:

Safety-Kleen Systems, Inc. (Safety-Kleen) is submitting this letter to document the plugging & abandonment (P&A) of monitoring well MW-12 at the above reference facility. Monitoring well MW-12 was located in the southwestern corner of the property with monitoring wells MW-7 and MW-10 within approximately 20 feet in distance. A copy of the Site Plan is shown in Appendix A. Safety-Kleen submitted a request detailing justification for the MW-12 P&A to the Texas Commission on Environmental Quality (TCEQ) in a letter dated September 20, 2010. Approval to conduct P&A of monitoring well MW-12 was received in a letter from the TCEQ dated December 16, 2010, which is presented in Appendix B.

On January 21, 2011 ATC Associates Inc. personnel supervised Best Drilling Services, Inc. during P&A activities. The monitoring well casing was removed along with the concrete pad by a State of Texas licensed well driller; Ramon Gutierrez (License Number 4997). The borehole was plugged with a cement/bentonite grout mixture, so as to prevent the preferential migration of fluids in the area of the borehole. The plugging of the well was in accordance with Provision 14 of Attachment B of the Compliance Plan along with 16 TAC Chapter 76 dealing with Well Drilling, Completion, Capping and Plugging. A copy of the State of Texas Plugging Report is presented in Appendix C. Photographic documentation of P&A activities is presented in Appendix D.

The recovery well vault for recovery well RW-1 was also removed and replaced with a new manhole cover concurrent with the MW-12 P&A. This work was conducted due to concern about the adequacy of the concrete seal around the well vault.

Safety-Kleen appreciates the TCEQ's assistance in bringing closure to this issue. If you have any questions, please contact Mr. Robert Schoepke with Safety-Kleen at 847-468-6733.

Sincerely,

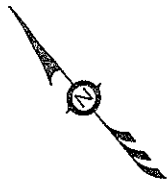
A handwritten signature in cursive script, appearing to read "Robert A. Schoepke".

Robert A. Schoepke, P.G.
Director - Remediation
Safety-Kleen Systems, Inc.

cc: TCEQ Waste Program, Houston, Texas
Tony Flores, P.G., ATC Associates, Houston, Texas
Ricardo Saucedo, Safety-Kleen Systems, San Antonio, Texas
Facility File, Safety-Kleen Systems, Missouri City, Texas

Appendix A

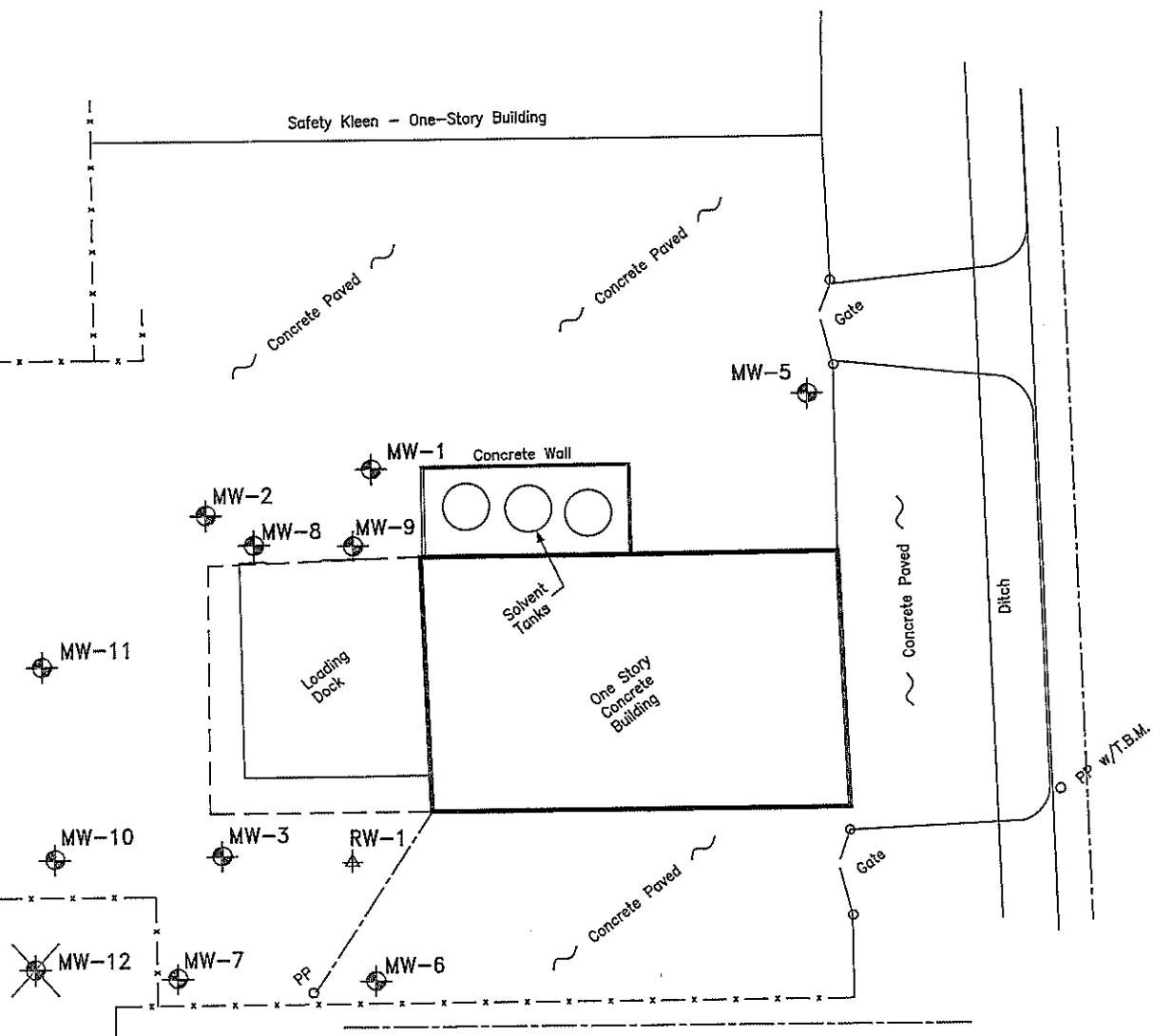
Site Plan



APPROXIMATE
SCALE IN FEET
0 15 30

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EXTENT OF SOLID
WASTE MANAGEMENT
UNIT (AREA-AA)



NOTE: Monitoring Well MW-12 Plugged On January 21,2011

SAFETY KLEEN
1580 INDUSTRIAL DRIVE
MISSOURI CITY, TEXAS
ATC Project No. : 73.75115.0005
Task 73002



Appendix A
SITE MAP

Appendix B
TCEQ Approval Letter

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 16, 2010

Mr. Bob Schöepke,
Senior Project Manager,
Safety-Kleen Systems, Inc.
1502 E. Villa St, 2nd Floor
Elgin, IL 60120

Re: Approval of Request for Plugging and Abandonment of Monitoring Well MW-12, dated September 20, 2010
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. CP - 50236
EPA ID No. TXD010803203
CN No. 600128128/RN No. 100717677

Dear Mr. Schoepke:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced request to plug and abandon (P&A) monitoring well MW-12, dated September 20, 2010. As indicated in the report, due to its location (within 20 feet of two other wells which are screened in the same groundwater bearing unit) MW-12 is not necessary to monitor the extent of impacted groundwater in this area of the facility. Please submit a report documenting the plugging and abandonment of monitoring well MW-12 within 60 days from the date of this letter.

Please note that Mr. Charles Brigance is not the Project Manager for this site. An original and one copy of future reports should be submitted to me at the letterhead address using Mail Code MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location and identification numbers in the reference line above should be included with the report. Questions concerning this letter should be directed to me at (512) 239-0507. Please use Mail Code MC-127 when responding by mail.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dylan Lawson".

Dylan Lawson, Project Manager
Corrective Action Team 1, VCP-CA Section
Remediation Division

DL/jdm

cc: Ms. Nicole Bealle, Waste Program Manager, TCEQ Region 12 Office, Houston

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REGION 12

Appendix C

State of Texas Plugging Report

STATE OF TEXAS PLUGGING REPORT for Tracking #69356

Owner:	Safety Kleen	Owner Well #:	MW-12
Address:	1580 Industrial Blvd Missouri City , TX 77489	Grid #:	65-28-3
Well Location:	1580 Industrial Blvd. Missouri City , TX 77489	Latitude:	29° 37' 16" N
Well County:	Fort Bend	Longitude:	095° 32' 22" W
		GPS Brand Used:	No Data

Well Type: Monitor

HISTORICAL DATA ON WELL TO BE PLUGGED

Original Well Driller: UNKNOWN

Driller's License Number
of Original Well Driller: N/A

Date Well Drilled: No Data

Well Report Tracking
Number: N/A

Diameter of Well: 2 inches

Total Depth of Well: 20 feet

Date Well Plugged: 1/21/2010

Person Actually
Performing Plugging
Operation: Ramon GutierrezLicense Number of
Plugging Operator: 4997

Plugging Method: Tremmie pipe bentonite from bottom to 2 feet from surface, cement top 2 feet.

Plugging Variance #: No Data

Casing Left Data: 1st Interval: NONE inches diameter, (No Data) ft to (No Data) ft
2nd Interval: No Data
3rd Interval: No DataCement/Bentonite Plugs
Placed in Well: 1st Interval: From 0 ft to 20 ft; Sack(s)/type of cement used: .5 cement bentonite grout
2nd Interval: No Data
3rd Interval: No Data
4th Interval: No Data
5th Interval: No Data

Certification Data: The plug installer certified that the plug installer plugged this well (or the well was plugged under the plug installer's direct supervision) and that each and all of the statements herein are true and correct. The plug installer understood that failure to complete the required items will result in the log(s) being returned for completion and resubmittal.

Company Information: Best Drilling Services, Inc.
P.O. Box 845
Friendswood , TX 77549**RECEIVED****FEB 11 2011****REGION 12**

Plug Installer License 4997
Number:
Licensed Plug Installer Ali Firouzbakht
Signature:
Registered Plug Installer Ramon Gutierrez
Apprentice Signature:
Apprentice Registration 58111
Number:
Plugging Method No Data
Comments:

Please include the plugging report's tracking number (Tracking #69356) on your written request.

Texas Department of Licensing & Regulation
P.O. Box 12157
Austin, TX 78711
(512) 463-7880

Appendix D

Photographic Documentation

MW-12 P&A Photos
Photographic Documentation
Safety Kleen Facility
1580 Industrial Drive
Missouri City, Texas



Photograph 1: View of MW-12 prior to removal.

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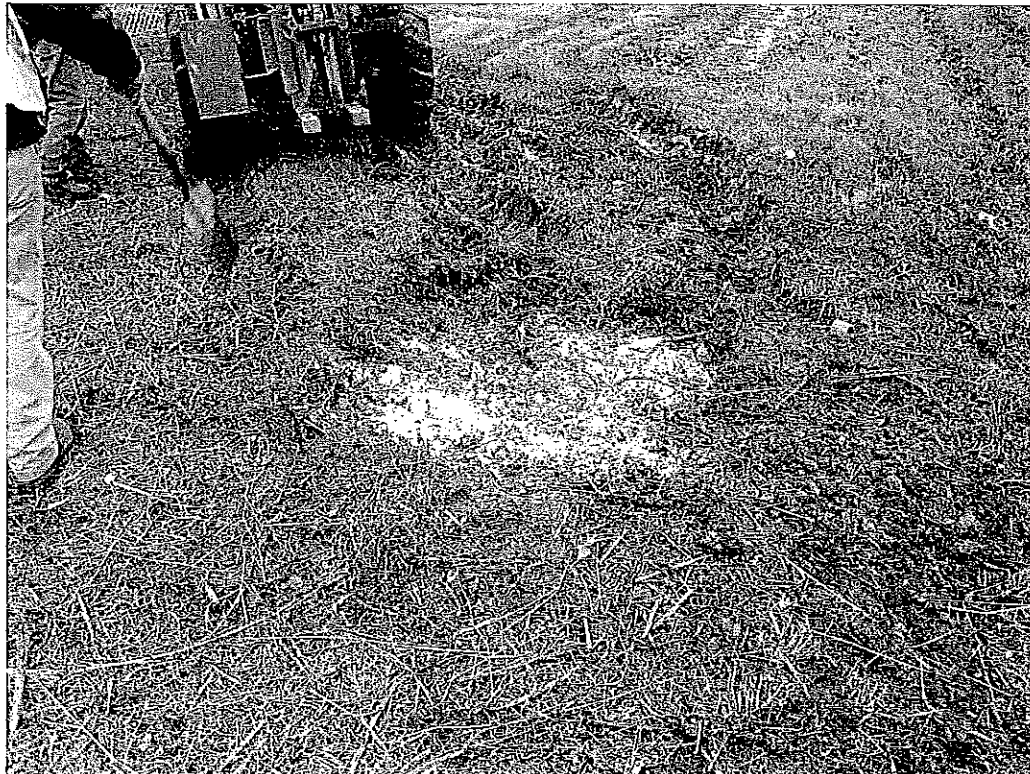


Photograph 2: Removal of casing from MW-12.

MW-12 P&A Photos
Photographic Documentation
Safety Kleen Facility
1580 Industrial Drive
Missouri City, Texas



Photograph 3: Pouring of bentonite into borehole of MW-12 after removal.



Photograph 4: View of MW-12 location after removal.

MW-12 P&A Photos
Photographic Documentation
Safety Kleen Facility
1580 Industrial Drive
Missouri City, Texas



Photograph 5: View of RW-1 prior to replacement of manhole



Photograph 6: View of RW-1 after replacement of manhole.

ATTACHMENT 2

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark K. Vickery, P.G., *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 15, 2010

CERTIFIED MAIL # 7002 2030 0003 4748 4862
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager
Safety-Kleen Systems Inc
5243 Sinclair Road
San Antonio, Texas 78222

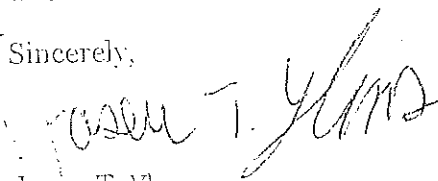
Re: Record Review Investigation:
Safety-Kleen, Missouri City 6 073 02, 1580 Industrial Dr, Missouri City (Fort Bend), Texas
77459
TCEQ SWR No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

The Texas Commission on Environmental Quality (TCEQ) Houston Region Office has received the compliance documentation that you submitted on September 23, 2010 for the Additional Issues noted during the Comprehensive Groundwater Monitoring investigation (CME) of the above-referenced facility conducted on July 20, 2010. The compliance documentation contained in your response appears to indicate that corrective action has been completed for three of the five Additional Issues. The two remaining Additional Issues will be resolved upon receipt of documentation of the completion of corrective actions specified in your submittal, as documented in the attached summary of investigation findings.

The TCEQ appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact Mr. Charles Burner in the Houston Region Office at (713) 767-3616.

Sincerely,


Jason T. Ybarra
Team Leader, Waste Section
Houston Region Office

JTY/CCB/tp

Enclosure: Summary of Investigation Findings

SUMMARY OF INVESTIGATION FINDINGS

Safety-Kleen Missouri City 6 073 02,
1580 Industrial Dr, Missouri City (Fort Bend), Texas 77459
TCEQ SWR No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203
Investigation Date: September 28, 2010

SUMMARY OF OUTSTANDING ADDITIONAL ISSUES

1. Groundwater elevation maps prepared for recent sample events appear to show an anomalous rise in well RW-1. This rise appears to have occurred one time prior to the July 2009 event, when an approximate two foot rise above the other monitoring wells was measured during the July 2007 sample event. In the current sample event, the wells showed an approximate 6.22 foot rise above the other wells.

The September 23, 2010 facility response stated that the RW-1 well vault will be removed and replaced with a concrete pad and new manhole cover. Documentation of this corrective action will be submitted to the TCEQ upon completion. This additional issue will be resolved upon receipt of documentation of the corrective action.

2. Monitor well MW-12 is not listed in the current compliance plan; however, the well is depicted on the ATC Associates map attached to the compliance plan with an offsite location. The property where the well is located appears to be posted with a for sale sign, and the site around the well is being used as a storage yard. Additionally, the well does not appear to be accessible from Safety-Kleen property.

On September 20, 2010, the facility submitted a letter to the TCEQ Remediation Division requesting that well MW-12 be abandoned. Documentation of the well abandonment will be submitted to the TCEQ upon completion. This additional issue will be resolved upon receipt of documentation of the corrective action.

SUMMARY OF RESOLVED ADDITIONAL ISSUES

1. The facility's Chain of Custody indicated a trip blank, no trip blank sample was contained in sample cooler.

The facility's September 23, 2010 response stated "Safety Kleen and ATC Associates Inc. will ensure in the future that all quality control samples are collected and transported to the lab". This additional issue is considered resolved.

2. On several occasions prior to the investigation, the facility was requested to provide information regarding the most recent well elevation survey. To date the information has not been received by the Agency.

The facility's September 23, 2010 response stated "The wells were resurveyed prior to the July 2010 sampling event on July 19, 2010. The survey data was summarized within a groundwater elevation table provided to Mr. Charles Burner of the TCEQ via e-mail on July 30, 2010. In response to the TCEQ's comment No.: 1 above regarding the anomalous rise in the water table in well RW-1, the wells was resurveyed again on September 17, 2010. The September 2010 survey data is

included in the groundwater elevation table in Appendix B". This additional issue is considered resolved.

3. Well MW-3 detected levels of Chlorobenzene at .130 mg/liter, which matches the previous high level recorded in the January 2008 sample event, the Chlorobenzene levels have increased over the last two sample events.

The facility's September 23, 2010 response stated "Chlorobenzene concentrations were above the Ground Water Protection Standard (GWPS) during the recent July 2010 event, but were below standard during the two preceding events. S-K proposes to monitor the chlorobenzene concentrations in MW-3 over the next two sampling events. If an increasing trend continues, S-K will propose additional measures to address this issue". This additional issue is considered resolved

Texas Commission on Environmental Quality

Investigation Report

SAFETY-KLEEN SYSTEMS INC

CN600128128

SAFETY-KLEEN MISSOURI CITY 6 073 02

RN100717677

Investigation # 342536

Incident #

Investigator: CHARLES BURNER

Site Classification

LARGE QUANTITY GENERATOR
CONTAINER STORAGE AREA
IHW LANDFILL
TANK (SURFACE)
MISCELLANEOUS STORAGE
CONTAINERS

Conducted: 11/30/2004 -- 12/13/2004

SIC Code: 7389

NAIC Code: 532299

Program(s): INDUSTRIAL AND HAZARDOUS WASTE STORAGE
INDUSTRIAL AND HAZARDOUS WASTE GENERATION
INDUSTRIAL AND HAZARDOUS WASTE DISPOSAL
CORRECTIVE ACTION

Investigation Type : Compliance Invest File Review

Location : 1580 INDUSTRIAL RD

Additional ID(s) : 50236
TXD010803203
71144

Address: ; ,

Activity Type : IHWRR

Principal(s) :

Role	Name
RESPONDENT	SAFETY-KLEEN SYSTEMS INC

Contact(s) :

Role	Title	Name	Phone
Regulated Entity Contact	SENIOR REMEDIAL MANAGER	MR GERHARD RISSE	Work (770) 418-1860
Regulated Entity Mail Contact	SENIOR REMEDIAL MANAGER	MR GERHARD RISSE	Work (281) 418-1860

Other Staff Member(s) :

Role	Name
QA REVIEWER	EDGAR ST. JAMES JR
SUPERVISOR	RAMA YADAV

WST IHW/ INSPECTION REPORTS

1st: 71144 2nd: Vol: 001 11/30/2004

BBC: 66133829

IBC: 100324331



Associated Check List

Checklist NameUnit Name

FILE REVIEW-IHW

File Review - 71144

IHW GENERIC OTHER ISSUES OR VIOLATIONS (20 I

Generic - 71144

Investigation Comments :

INTRODUCTION

On November 30 through December 13 2004, Charles Burner, Environmental Investigator of the Texas Commission on Environmental Quality (TCEQ) Region 12 Office conducted a IHW Record Review (RR) for the Safety-Kleen Systems Inc., Missouri City Facility (SK). The RR was conducted

to evaluate a facility response letter dated December 09, 2004. The letter was submitted in response to a November 6, 2003-TCEQ letter requesting additional compliance documentation for outstanding alleged violations and areas of concern from a Comprehensive Ground-Water Monitoring Evaluation (CME) conducted at the facility.

BACKGROUND

On May 29 and June 6, 2003 a Comprehensive Ground-Water Evaluation Investigation (CME) was conducted at the referenced facility. On July 23, 2003, a Notice of Violation letter was mailed to the facility which documented five outstanding alleged violations and ten outstanding areas of concern, See Attachment 1. The facility responded to the NOV on August 18, 2003, See Attachment 2. On November 6, 2003, a TCEQ letter entitled "Additional Compliance Documentation Needed" was sent to the facility, See Attachment 3. The letter resolved one alleged violation and requested additional information regarding the remaining four outstanding alleged violations and ten areas of concern. The facility responded to the November 6, 2003-TCEQ letter on November 26, 2003, See Attachment 4. The submittal addressed two of the outstanding alleged violations and four of the outstanding areas of concern by proposing the submittal of a Compliance Plan Major Amendment, and included a compliance plan and schedule. The amendment was to be submitted to the TCEQ Permit Section for administrative review, and then to the TCEQ Corrective Action Section for technical review. To allow the facility sufficient time to gather information to either document that an amendment would not be required, or if an amendment was required, to prepare and submit a technically sufficient amendment, an Enforcement Exception / 180 day Deadline Extension was approved on January 28, 2004, See Attachment 5. The extension moved the deadline to June 11, 2004.

To address the two remaining outstanding alleged violations and six of the areas of concern a revised Sample and Analysis Plan (SAP) was submitted to the agency on December 24, 2003. As the SAP is a Compliance Plan requirement, review was required by the TCEQ Corrective Action Section. After several revisions the final SAP was approved by the agency on November 15, 2004, See Attachment 6. With the approval of the SAP, two of the four remaining outstanding alleged violations and six of the nine remaining outstanding areas of concern were considered resolved. To address the three remaining outstanding areas of concern the TCEQ Corrective Action Section submitted another Request for Additional Information to the facility on December 5, 2003, for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. Because the Corrective Action Section was working with the facility to address the outstanding alleged violations and areas of concern the Houston Region Office submitted a second request for an Enforcement Exception / 180 day Deadline Extension on June 15, 2004. The second extension set the deadline at December 10, 2004, See Attachment 5. The facility was requested to provide monthly updates on the status of addressing the alleged outstanding violations. On December 9, 2004, the facility submitted a final update letter which stated that a compliance plan renewal would not be required because based review of semi-annual groundwater sample results, See Attachment 5. Mr. Todd Counter with the TCEQ Permits Section concurred that based on his review of the semi-annual data a compliance plan renewal was not required, and that the outstanding alleged violation could be resolved.

Below is a summary of the outstanding alleged violations from the investigation and the corrective action proposed for each item.

SUMMARY OF RESOLVED ALLEGED VIOLATIONS

1.) Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan, Category B-3

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

- The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

On November 15, 2004, the TCEQ permit section approved the revised SAP, See Attachment 6.

The alleged violation is resolved.

2.) Compliance Plan No. CP-50236 Provision V.A.1.2. and 4, Performance Standard, Category B-11

The Permittee shall conduct the Corrective Action Program so as to achieve the Groundwater Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line"; and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

- SK proposed the submittal of a major amendment to the Compliance Plan to increase the Ground Water Protection Standard (GWPS) from non-detect to the TRRP Tier-1 GW Protective Concentration Level. The submittal of the major modification was initially anticipated by Safety-Kleen to occur by February 26, 2004, the facility planned on conducting semiannual monitoring and using the data to prepare the modification.

The alleged violation is resolved based on the facility submittal dated December 9, 2004, See Attachment 7, which demonstrated that a compliance plan modification would not be required.

3.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction, Category C-3

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

- SK stated that the required information would be included in the Compliance Plan major amendment.

The alleged violation is resolved based on the facility submittal dated December 9, 2004, See Attachment 7, which demonstrated that a compliance plan modification would not be required.

4.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements, Category C-3

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

- SK stated that the information has been included in the SAP and on field sampling sheets.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6. The alleged violation is resolved.

SUMMARY OF RESOLVED AREAS OF CONCERN

1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

- The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter

requires the facility to address this area of concern, See Attachment 8. The concern is considered resolved.

2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern, See Attachment 8. The concern is resolved.

3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals, the facility was unable to provide the assessments for review during this investigation.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern, See Attachment 8. The concern is resolved.

4.) During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

- EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6. The concern is resolved.

5.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

- All equipment should be calibrated per EPA guidance.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6. The concern is resolved.

6.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6. The concern is resolved.

7.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6.

The concern is resolved.

8.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6. The concern is resolved.

9.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP, See Attachment 6. The concern is resolved.

10.) Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

The November 26, 2003 response letter, See Attachment 4, documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

ALLEGED NONCOMPLIANCES NOTED AND RESOLVED

Track No: 82850

Resolution Date: 12/13/04

PERMIT Compliance Plan III.E.2, ref Att. B-13

Well Construction

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

Investigation: 253592

Comment Date: 06/10/2004

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan. SK stated that the required information would be included in the Compliance Plan major amendment not yet submitted.

Investigation: 342536

Comment Date: 11/29/2004

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

Recommended Corrective Action: The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

Resolution: The alleged violation is resolved based on the facility submittal dated December 9, 2004, which demonstrated that a compliance plan modification would not be required.

Track No: 82867

Resolution Date: 12/13/04

PERMIT Compliance Plan Provision VI.C.4.c.

Field Determination Requirements

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

Investigation: 253592

Comment Date: 06/10/2004

Field observations including descriptions of the appearance (Clarity, color, etc.) shall be recorded. The field data sheets do not record all required information. SK stated that the information has been included in the SAP and on field sampling sheets. The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

Investigation: 342536

Comment Date: 11/29/2004

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

Recommended Corrective Action: The alleged violation will be resolved upon review and approval of the SAP.

Resolution: On November 15, 2004 the TCEQ permit section approved the revised SAP. The alleged violation is resolved.

Track No: 185603

Resolution Date: 12/13/04

IHWPE VI.B. 1. and 2

Wells shall be sampled according to the Sampling and Analysis Plan (SAP)

Alleged Violation:

Investigation: 342536

Comment Date: 12/13/2004

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

Recommended Corrective Action: The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

Resolution: On November 15, 2004, the TCEQ permit section approved the revised SAP.

Track No: 185620

Resolution Date: 12/13/04

IHWPE V.A.1.2. and 4

The Permittee shall conduct the Corrective Action Program so as to achieve the Groundwater Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line"; and "beyond the facility boundary."

Alleged Violation:

Investigation: 342536

Comment Date: 12/13/2004

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

Recommended Corrective Action: The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the

Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line. The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

Resolution: The alleged violation is resolved based on the facility submittal dated December 9, 2004, which demonstrated that a compliance plan modification would not be required.

Areas of Concern

Description

Item #5

Additional Comments

Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern. The concern is considered resolved.

Item #6

A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern. The concern is resolved.

Item #7

Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands

penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals, the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern. The concern is resolved.

Item #8

During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved

Item #9

A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

Item #10

Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

Item #11

No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

Item #12

All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

Item #13

During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

Item #14

Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

The November 26, 2003 response letter documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

Signed 
Environmental Investigator

Date 12/16/04

Signed Rama Yadav
Supervisor

Date 12/16/04

Attachments: (in order of final report submittal)

___ Enforcement Action Request (EAR)

___ Maps, Plans, Sketches

☒ Letter to Facility (specify type): Final

___ Photographs

Investigation Report

247 ___ Correspondence from the facility

☐ Sample Analysis Results

☐ Manifests

☐ NOR

☒ Other (specify) :

List of Attachments

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 16, 2004

Mr. Gerhard L. Risse, P.E.
Senior Remediation Manager
Safety-Kleen Corporation.
4800 South Old Peachtree Road
Norcross, GA 30071


Re: Record Review Investigation (CME) at:
Safety-Kleen Corp., Missouri City Facility, 1580 Industrial Drive, Missouri City, (Fort Bend
County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Risse:

The Texas Commission on Environmental Quality (TCEQ) Houston Region Office has received the compliance documentation that you submitted December 9, 2004 for the outstanding alleged violations and areas of concern noted during the investigation of the above-referenced facility conducted on May 29 and June 6, 2003. The compliance documentation contained in your response appears to indicate that corrective action has been taken for the alleged violations and areas of concern as discussed in the attached Summary of Investigation Findings. No further submittal from you is required concerning this investigation.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone #(713) 767- 3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Leader, Solid Waste Section
Houston Region Office

Enclosure: Summary of Investigation Findings

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Corp., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.:71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: November 30 through December 13, 2004

SUMMARY OF RESOLVED ALLEGED VIOLATIONS

1.) **Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan**

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

- The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

On November 15, 2004, the TCEQ permit section approved the revised SAP. The alleged violation is resolved.

2.) **Compliance Plan No. CP-50236 Provision V.A.1.2. and 4, Performance Standard**

The Permittee shall conduct the Corrective Action Program so as to achieve the Groundwater Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line"; and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

- SK proposed the submittal of a major amendment to the Compliance Plan to increase the Ground Water Protection Standard (GWPS) from non-detect to the TRRP Tier-1 GW Protective Concentration Level. The submittal of the major modification was initially anticipated by Safety-Kleen to occur by February 26, 2004, the facility planned on conducting semiannual monitoring and using the data to prepare the modification.

The alleged violation is resolved based on the facility submittal dated December 9, 2004, which demonstrated that a compliance plan modification would not be required.

3.) **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction**

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

- SK stated that the required information would be included in the Compliance Plan major amendment.

The alleged violation is resolved based on the facility submittal dated December 9, 2004, which demonstrated that a compliance plan modification would not be required.

4.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

- SK stated that the information has been included in the SAP and on field sampling sheets.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The alleged violation is resolved.

SUMMARY OF RESOLVED AREAS OF CONCERN

- 1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.
- The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern. The concern is considered resolved.

- 2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern. The concern is resolved.

- 3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals, the facility was unable to provide the assessments for review during this investigation.
- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern. The concern is resolved.

- 4.) During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.
- EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

- 5.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.
- All equipment should be calibrated per EPA guidance.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

- 6.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.
- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

- 7.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.
- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

- 8.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.
- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

- 9.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.
- All sampling should be conducted utilizing EPA approved methodology.

On November 15, 2004 the TCEQ permit section approved the revised SAP. The concern is resolved.

- 10.) Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

The November 26, 2003 response letter documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

LIST OF ATTACHMENTS

- ATTACHMENT 1 – July 23, 2003 TCEQ Notice of Violation Letter
- ATTACHMENT 2 – Safety-Kleen August 18, 2003 response to Notice of Violation Letter
- ATTACHMENT 3 – TCEQ November 6, 2003 letter requesting Additional Compliance Documentation
- ATTACHMENT 4 – Safety-Kleen November 26, 2003 response to November 6, 2003 TCEQ Letter
- ATTACHMENT 5 – Exception / 180 day Deadline Extensions
- ATTACHMENT 6 – TCEQ SAP approval letter
- ATTACHMENT 7 – Safety-Kleen letter dated December 9, 2004
- ATTACHMENT 8 – TCEQ Request for Additional Information Letter Dated December 5, 2003

ATTACHMENT 1

July 23, 2003 TCEQ Notice of Violation Letter

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 23, 2003

CERTIFIED MAIL # 7001 2510 0007 0184 9254
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.,
Environmental, Health & Safety Manager
Safety-Kleen Corporation
5243 Sinclair Road
San Antonio, Texas 78222

Re: Notice of Violation for the Comprehensive Ground-Water Evaluation Investigation at:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, (Fort Bend
County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

On May 29 and June 6, 2003, Charles Burner of the Texas Commission on Environmental Quality (TCEQ) Houston Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for industrial solid waste. Enclosed is a summary which lists the investigation findings. During the investigation, some concerns were noted which were alleged noncompliances that have been resolved through verbal notification and subsequent corrective action. In addition, certain outstanding alleged violations were identified for which compliance documentation is required. Please submit to this office by August 23, 2003 a written description of corrective action taken and the required documentation demonstrating that compliance has been achieved for each of the outstanding alleged violations.

In the listing of alleged violations, we have cited applicable requirements, including TCEQ rules. If you would like to obtain a copy of the applicable TCEQ rules, you may contact any of the sources listed in the enclosed brochure entitled "Obtaining TCEQ Rules."


The Texas Commission on Environmental Quality appreciates your assistance in this matter. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements. We anticipate that you will resolve the alleged violations as required in order to protect the State's environment. If you have additional information that we are unaware of, you have the opportunity to contest the violation(s) documented in this notice. Should you choose to do so, you

Mr. Ricardo Saucedo, P.E.,
Safety-Kleen Corporation.
July 23, 2003

must notify the Houston Region Office within 10 days from the date of this letter. At that time, Ms. Marsha Hill, Waste Program Manager, will schedule a violation review meeting to be conducted. However, please be advised that if you decide to participate in the violation review process, the TCEQ may still require you to adhere to the compliance schedule referenced in paragraph one above until an official decision is made regarding the status of any or all of the contested violations.

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone (713)767-3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Region 12 - Houston

Enclosure: Summary of Investigation Findings
 Obtaining TCEQ Rules

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.: 71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: May 29 and June 6, 2003

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS

During this investigation, the following alleged violations were documented and remain outstanding.

1. Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should maintain and utilize an appropriate SAP.

2. Compliance Plan No. CP-50236 Provision V.A.1.2, and 4. Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

3. Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

4. Permit Provision IV.B.1 Authorized Wastes

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

5. Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

SUMMARY OF ALLEGED VIOLATIONS RESOLVED

During this investigation, the following alleged violation was documented and subsequently resolved after corrective action.

1. Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 16, Well Construction

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, therefore the alleged violation is considered resolved.

SUMMARY OF OUTSTANDING AREAS OF CONCERN

During this investigation, the following areas of concern were documented and remain to be addressed.

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

4. Monitoring well RW-1 appears to still have no longer required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

5. During the current sampling event all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

6. A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

7. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

- 9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

- 10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

ATTACHMENT 2

Safety-Kleen August 18, 2003 response to Notice of Violation Letter



RECEIVED
AUG 22 2003
REGION 12

August 18, 2003

Mr. Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Texas Commission on Environmental Quality
5425 Polk Ave., Suite H
Houston, Texas 77023-1486

Subject: Notice of Violation for the Comprehensive Groundwater Evaluation Investigation
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, Texas
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

Dear Mr. Yadav:

This letter is intended to respond to the TCEQ letter dated July 23, 2003, which documents violations associated with the above referenced site. Five outstanding alleged violations are listed in the letter and are addressed below.

1. Compliance Plan No. CP-50236 Provision VI.B.1. and 2. Sampling and Analysis Plan -
Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP.

TCEQ Comment -

The facility records did not contain a SAP at the time of the investigation.

Safety-Kleen Response -

The SAP plan was not present during the sampling event. However, all of the procedures listed in the existing SAP were conducted during the sampling event. S-K has also reviewed the current plan and recommends several changes that will bring it up to date, and make the procedures reflect current practices and technology. The SAP has been adjusted to be more comprehensive and up to date. A draft copy of the revised SAP is attached for reference. A final version will be included in a forthcoming compliance plan major amendment (see item 3 below).

2. Compliance Plan No. CP-50236 Provision V.A.1.2. and 4. Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line," and "beyond the facility boundary."

Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that Chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2 , and MW-3.

TCEQ Comment –

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard “at the Point of Compliance and between the Point of Compliance and the downgradient facility property line.” The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

Safety-Kleen Response –

Delineation of previous groundwater impacts was completed and approved by the Department prior to implementation of corrective actions at the site. Operation of the groundwater recovery system was terminated several years ago when constituent levels were within an acceptable range to propose monitored natural attenuation. This change was manifest in a major modification to the facility Compliance Plan in 1998. Safety-Kleen proposes to submit a new Compliance Plan Major Amendment in order to increase the GWPS from Non-Detected to the TCEQ Texas Risk Reduction Standard (TRRP) Tier 1 Groundwater PCL for Ingestion, Residential. As shown in the latest Semi-Annual Groundwater Monitoring Report, there is no real gradient at the site. The only well associated with the Site that has a Chlorobenzene concentration above the TRRP Tier 1 PCL for any constituent is RW-1. S-K will insure that the groundwater impacts are delineated to the north of MW-2 in order to delineate the groundwater impact. S-K anticipates submittal of this major modification within the next 90 days.

3. Compliance Plan No. CP-50236 Provision III.E.2. referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

TCEQ Comment -

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

Safety-Kleen Response –

The drilling and construction details for each well at the site will be modified to include all required information and a copy will be stored onsite. The revised information will be present in the forthcoming modification to the Compliance Plan.

4. Permit Provision IV.B.1 Authorized Wastes

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

TCEQ Comment -

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

Safety-Kleen Response -

In the future, all evacuated groundwater will be placed in a compatible storage drum to be stored in the permitted container storage area. This wastestream will be identified in Table IV.B of the Part B permit and a Class 1 permit modification will be submitted to the TCEQ, Austin TX office the next time a permit modification is required for this facility.

5. Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

TCEQ Comment -

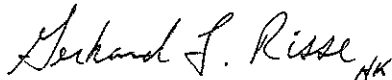
The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

Safety-Kleen Response -

This information has been included in the SAP and on field sampling sheets. The information listed on the SAP will be collected during future sampling events at the site.

Safety-Kleen appreciates the TCEQ's assistance on completing this project. If you have any questions, please contact Mr. Gary Risse with Safety-Kleen at (770) 418-1860 or Mr. Hal G. Kuntz II with ATC Associates at (281) 240-0154.

Sincerely,

Handwritten signature of Gerhard L. Risse in cursive script, with the initials "HK" at the end.

Gerhard L. Risse, P.E.
Senior Remedial Manager - Safety-Kleen

Enclosures

cc: Ricardo Saucedo, P.E., Safety-Kleen, San Antonio, Texas
Hal G. Kuntz II, P.G., ATC Associates, Houston, Texas

APPENDIX F
REVISED SAMPLING AND ANALYSIS PLAN
GROUNDWATER SAMPLING PROCEDURES

The following procedures will be used to obtain groundwater samples:

- a. Upon arrival at a monitoring well, note any defects in the well that might require repair. Unlock the well and remove the cap.
- b. Using the water level measuring instrument, measure the water level and record the value to the closest 0.01 foot. Determine the total depth of the well and record to the nearest 0.01 foot. Withdraw and clean the level indicator, noting any foreign matter that might be clinging to the probe.\
- c. Calculate the amount of water in the four-inch monitoring well casings using the following formula:
 - i. $\text{Well depth} - \text{Depth to water} = \text{Water column length (feet)}$
 - ii. $\text{Well column length} \times 0.67 = \text{Casing volume (gallons)}$
- d. Using a decontaminated PVC bailer or submersible pump, purge the well until a minimum of three casing volumes are removed or until the well is dry.
- e. After purging the well, allow the well to recover to at least 80 percent of its static water level.
- f. Collect a water sample using a disposable Teflon™ bailer.
- g. Transfer water samples directly from the bailer to bottles. This will help minimize cross-contamination of samples. Take care to observe any sample preservation and headspace requirements. Measure and record pH, conductivity and temperature of groundwater sample, as well as any other required field measurements.
- h. Place the sample bottles in a shipping container and add ice.
- i. Complete chain-of-custody forms, field log book, and field sampling form as samples are collected.
- j. Replace the cap and relock the well.
- k. Return samples to the laboratory as soon as possible. If shipping is necessary, ship by overnight express service.
- l. Purge water will be containerized and disposed of properly.

ATTACHMENT 3

TCEQ November 6, 2003 letter requesting Additional Compliance Documentation

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 6, 2003

CERTIFIED MAIL # 7001 2510 0007 0184 8820
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.,
Environmental, Health & Safety Manager
Safety-Kleen Corporation.
5243 Sinclair Road
San Antonio, Texas 78222

Re: Additional Compliance Documentation Needed for:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City,
(Fort Bend County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:


The Texas Commission on Environmental Quality (TCEQ) Houston Region Office has received the compliance documentation that you submitted August 18, 2003, for the alleged violations and areas of concern noted during the investigation of the above-referenced facility conducted on May 29, and June 6, 2003. The compliance documentation contained in your response appears to indicate that some of the problems documented during the investigation have been corrected. However, information is still needed for the alleged violations and areas of concern listed in the enclosed summary. Please submit to our office by November 26, 2003 a written description of corrective action taken and the required compliance documentation demonstrating that these remaining alleged violations and areas of concern have been resolved.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to protect the State's environment. We look forward to receiving your response for the remaining alleged violations and areas of concern. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements.

Safety-Kleen Corporation
November 6, 2003
Page -2-

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone #(713) 767-3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Region 12 - Houston

cc: Mr. Gerhard L. Risse, P.E., Senior Remedial Manager, Safety-Kleen, 4800 South Old Peachtree Road, Norcross, Ga 30071
Mr. Hal Kuntz, ATC. Associates, 3928 Bluebonnet Dr, Stafford TX 77477

Enclosure: Summary of Investigation Findings

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.: 71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: May 29 and June 6, 2003

SUMMARY OF ALLEGED VIOLATION RESOLVED

1.) **Permit Provision IV.B.1 Authorized Wastes**

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

- In their August 18, 2003 letter, Safety-Kleen stated that "in the future all evacuated groundwater will be placed in a compatible storage drum to be stored in the permitted container storage area . . . "

The alleged violation is considered resolved.

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS AND AREAS OF CONCERN

1.) **Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan**

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

- The facility's response stated that "The facility's SAP has been adjusted to be more comprehensive and up to date."

The SAP referenced is a one page document that does not include all the topics necessary, nor contain the level of detail necessary to be technically sufficient. The facility should prepare a technically sufficient SAP that addresses all the required aspects such as well gauging, purging, sampling, analysis, reporting, etc. The revised SAP should be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

2.) **Compliance Plan No. CP-50236 Provision V.A.1,2, and 4, Performance Standard**

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

- SK proposed the submittal of a major amendment to the Compliance Plan to increase the GWPS from non detect to the TRRP Tier-1 GW PCL. The submittal of the major modification was to occur within the "next 90 days", which would be by November 17, 2003. To date no Compliance Plan amendment has been submitted.

The facility should submit a Compliance Plan amendment that addresses the alleged violation to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

3.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

- SK stated that the required information would be included in the Compliance Plan Modification submitted to the agency by November 17, 2003.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan. The information should be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

4.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (Clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

- SK stated that the information has been included in the SAP and on field sampling sheets.

The facility should submit the revised field data sheet(s) to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Summary of Outstanding Areas of Concern:

- 1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

- The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to

provide the assessments for review during this investigation.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 4.) Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.
- Recovery well components which are no longer required should be removed.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 5.) During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.
- EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 6.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.
- All equipment should be calibrated per EPA guidance.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 7.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.
- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.
- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

ATTACHMENT 4

Safety-Kleen November 26, 2003 response to November 6, 2003 TCEQ Letter

**FAX COVER SHEET**

TO: Rama Yadav
Charles Burner

Date: 11/26/2003

FROM: Hal G. Kuntz II

Fax #: 713-767-3520

SUBJECT: Safety-Kleen
Missouri City, Texas

Pages:

Rama and Charles,

Here is a response letter for the Safety-Kleen Missouri City site.

I will be working with Todd Counter on the SAP, delineation, and compliance plan amendment.

Feel free to call with questions or comments.

Thanks,

Hal G. Kuntz II

Please contact me if you did not receive the entire fax.

(281) 240-0164 - office

(713) 899-6507 - cell



November 26, 2003

Mr. Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Texas Commission on Environmental Quality
5425 Polk Ave., Suite H
Houston, Texas 77023-1486

Subject: Response to Additional Compliance Documentation Needed for:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, Texas
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

Dear Mr. Yadav:

This letter is intended to respond to the TCEQ letter dated November 6, 2003, which documents the need for additional compliance documentation needed for the above referenced site. Four outstanding alleged violations and 10 outstanding areas of concern are listed in the letter and are addressed below.

1. Compliance Plan No. CP-50236 Provision VI.B.1. and 2. Sampling and Analysis Plan -
Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should submit a Compliance Plan amendment that addresses the alleged violation to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response -

The SAP will be expanded to include all required details and will be submitted to Mr. Todd Counter with the TCEQ, and the TCEQ Region Office, by December 26, 2003. The submittal will be included in a forthcoming compliance plan major amendment (see item 2 below and attached schedule).

2. Compliance Plan No. CP-50236 Provision V.A.1.2. and 4. Performance Standard
The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being

effectively contained and/or remediated. Sample results for recent sampling events indicate that Chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should submit a Compliance Plan amendment that addresses the alleged violation to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response -

S-K will insure that the groundwater impacts are delineated to the existing GWPS northwest and northeast of MW-2 and MW-3. Upon installation of any additional delineation wells, monitoring and sampling will be performed in accordance with the new SAP. The next semi-annual monitoring and sampling event is scheduled for November, 2003. S-K proposes that this event be delayed until the additional wells are installed. S-K anticipates that a semi-annual report will be submitted to the TCEQ by January 26, 2003, which will address any new well installation and semi-annual groundwater sampling activities.

Safety-Kleen proposes to submit a Compliance Plan Major Amendment in order to increase the GWPS from Non-Detected to the TCEQ Texas Risk Reduction Standard (TRRP) Tier 1 Class III Groundwater PCL for Ingestion, Residential. The only well associated with the Site that has a Chlorobenzene concentration at or above the TRRP Tier 1 PCL for any constituent is RW-1. As shown in the latest Semi-Annual Groundwater Monitoring Report, there is no real gradient at the site. The Major Amendment has not already been completed as S-K has been investigating the need for further delineation of the dissolved-hydrocarbon plume at the site. S-K anticipates completion of delineation and submittal of a Major Amendment by February 26, 2003.

3. Compliance Plan No. CP-50236 Provision III.E.2. referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan. The information should be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response -

ATC retained the services of Atlas Environmental to locate the well construction details for wells MW-5 through MW-7 and the associated 1991 report (Canonie Environmental). The drilling and construction details, as available, for each well at the site will be modified to include all required information and a copy will be stored onsite. The revised information will be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

4. Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

The facility should submit the revised field data sheet(s) to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response -

The form will be updated to include the required information in the SAP and used during future sampling events at the site. The form will be sent to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Summary of Outstanding Areas of Concern:

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

Safety-Kleen Response -

Based on the most recent groundwater data, there seems to be very little gradient across the site (0.24 feet). Upon review of the soil logs, there does not appear to be three sand Zones encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7, located on the opposite side of the site. There is little evidence of a distinct gradient at the site. Historical gradients have generally been to the east toward MW-8 and MW-9, and RW-1 is located to the west of Unit AA, there is at least one point of compliance well in the downgradient direction. The wells will be resurveyed at a minimum every two years to determine if the casing elevations have changed. It is probable that the installation of the additional delineation wells will provide valuable additional data concerning the gradient at the site.

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

Safety-Kleen Response -

Again, upon review of the soil logs, there does not appear to be three sand Zones

encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7, located on the opposite side of the site.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide assessments for review during this investigation.

Safety-Kleen Response –

Again, upon review of the soil logs, there does not appear to be three sand Zones encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7 (the other two deep wells), located on the opposite side of the site.

4. Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

Safety-Kleen Response –

The recovery system components were removed on July 3, 2003. Before and after photos are attached.

5. During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump." The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

Safety-Kleen Response –

An EPA approved/recommended pump will be used when purging wells during future groundwater sampling events. The specifications will be included in the SAP.

6. A rented flow through cell was used to measure purge water parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

Safety-Kleen Response –

The water parameter flow through cell will be calibrated immediately prior to purging wells during future groundwater sampling events. This step will be included in the SAP. In addition, the technicians have been re-trained on proper sampling techniques and procedures.

7. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

Safety-Kleen Response -

A trip blank will be included during future groundwater sampling events. This will be included in the SAP.

8. No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

Safety-Kleen Response -

A duplicate sample and field blank will be collected during future groundwater sampling events. This will be included in the SAP.

9. The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

Safety-Kleen Response -

The COC will be completed in full detail during future groundwater sampling events. In addition, the COC will be signed by the samplers. The specifications will be included in the SAP.

10. During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

Safety-Kleen Response -

While this is an approved method for wells with slow recharge, this practice will be adjusted to pump nearer the surface and the pump will be continually lowered as the water level falls. An EPA approved purge method will be used when purging wells during future groundwater sampling events. The specifications will be included in the SAP.

Safety-Kleen appreciates the TCEQ's assistance on completing this project. If you have any questions, please contact Mr. Gary Risse with Safety-Kleen at (770) 418-1860 or Mr. Hal G. Kuntz II with ATC Associates at (281) 240-0154.

Sincerely,



Gerhard L. Risse, P.E.
Senior Remedial Manager - Safety-Kleen

Enclosures

cc: Ricardo Saucedo, P.E., Safety-Kleen, San Antonio, Texas
Hal G. Kuntz II, P.G., ATC Associates, Houston, Texas

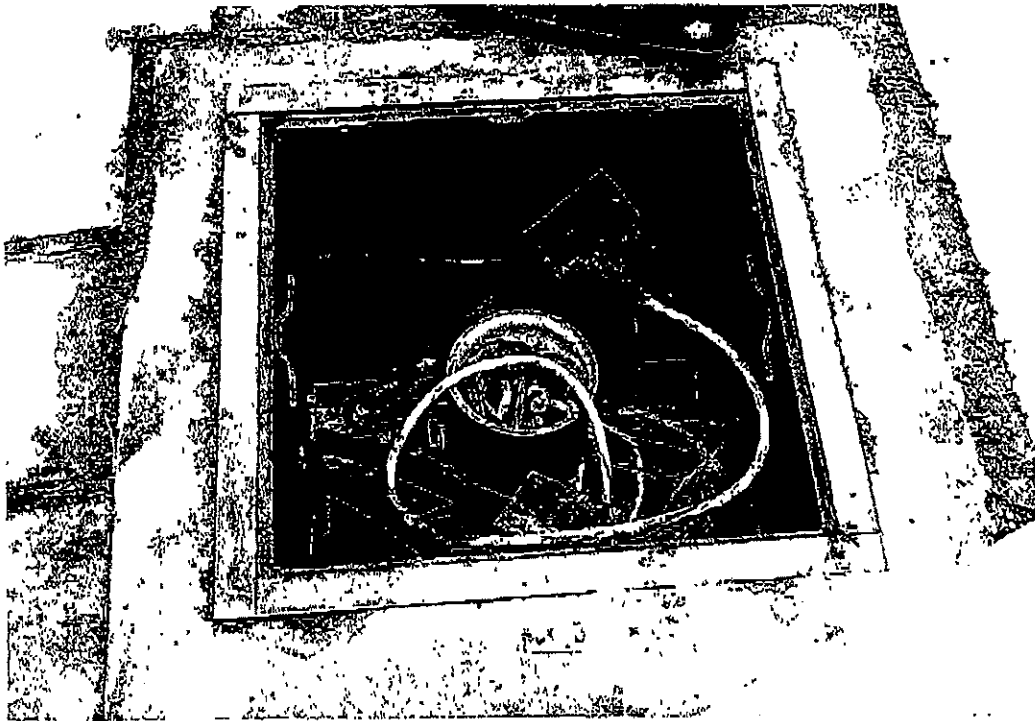


Photo 1 – View of RW-1 prior to removal of hoses and wires associated with former remediation system.

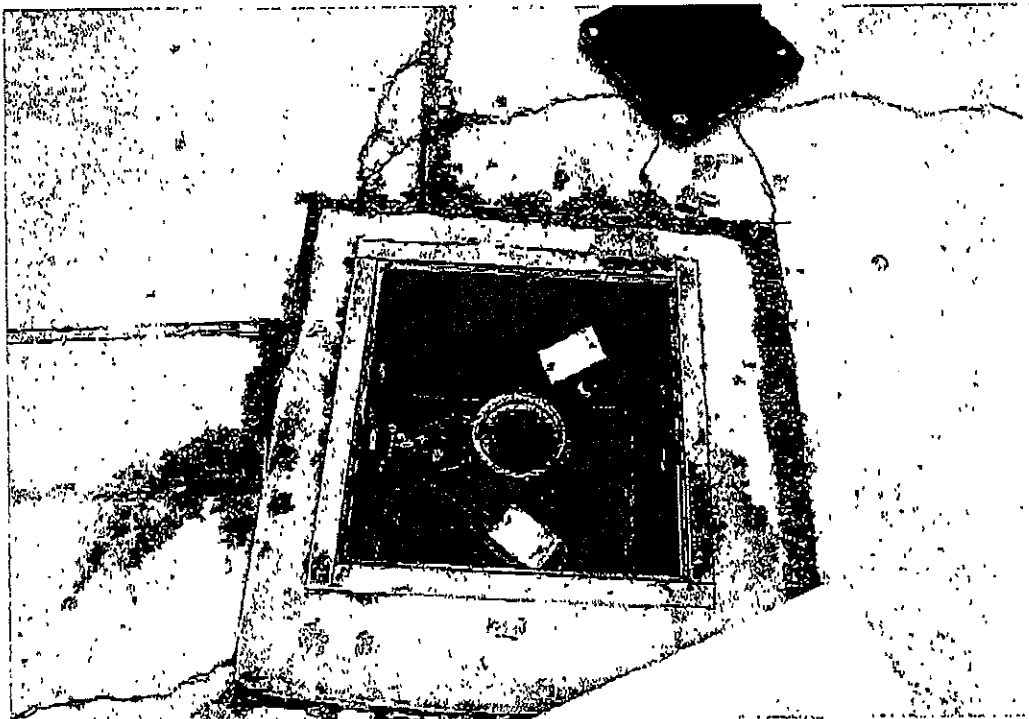


Photo 1 – View of RW-1 after removal of hoses and wires associated with former remediation system.

General Lithologic Summary
Safety-Kleen
1580 Industrial Boulevard
Missouri City, Texas

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	RW-1
0										
1	bl c	bl c	bl c	bl c	bl c	bl c	bl c	red cl	red cl	bl c
2										
3				tan cl						
4				tan cl			gr s			
5				red cl			gr s			
6				red s			gr s			
7				red cl			red cl			
8				red cl			red cl			
9										
10		red s		red s						
11		red s								
12										
13		red s		red sl	red sl			gr sl		red sl
14	red s						red sl	gr sl		
15										
16				red sl						
17										
18	red cl	red cl			red cl	red sl	red cl			red sl
19		red s	red s							red sl
20		red cl								
21										
22										
23										
24										
25										
26										
27										
28										
29					red sl					
30										

Notes: Clays and silty clays are highlighted in yellow
 bl - black
 gry - gray
 cl - clay
 s - sand
 sl - silt
 slcl - silty-clay
 sls - silty-sand
 ssl - sandy-silt

SCHEDULE OF EVENTS

SAFETY-KLEEN
1580 INDUSTRIAL BOULEVARD
MISSOURI CITY, TEXAS

ACTIVITY	November	December	January	February	March
	3-8 10-16 17-23 24-30 1-7	8-14 15-21 22-28 29-31 1-4	5-12 13-19 20-26 27-31 1-8	9-15 16-22 23-29 23-29 1-8	9-15 16-22 23-29 30-31
Completed Well Logs					
Sampling & Analysis Plan					
Delineation Wells					
Semi-Annual Sampling Event					
Semi-Annual Report					
Major Amendment					

ATTACHMENT 5

Exception / 180 day Deadline Extensions



Protecting Texas
by Reducing and
Preventing Pollution

INTEROFFICE MEMORANDUM

DATE: June 15, 2004

TO: *6/15/04 DT* Don Thompson,
Regional Director, Region 12 - Houston

THROUGH *MM* *6/15/04* Marsha Hill,
Waste Program Manager Region 12 - Houston
Rama Yadav,
Leader, Solid Waste Section Region 12 - Houston

FROM: *CCB* Charles Burner,
IHW Investigator Region 12 - Houston
6/15/04

SUBJECT: Enforcement Exception / 180 day Deadline Extension Request, Safety-
Kleen Systems, Inc., Missouri City Facility,
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

On May 29 and June 6, 2003 a Comprehensive Ground-Water Evaluation Investigation (CME) was conducted at the referenced facility. On July 23, 2003, a Notice of Violation letter was mailed to the facility which documented five alleged violations and ten areas of concern. To date one outstanding alleged violation has been resolved. The outstanding alleged violations and areas of concern pertaining to deficiencies in the groundwater monitoring well system and monitoring well sampling procedures for which approval of a major amendment to the Compliance Plan may be required. An Enforcement Exception / 180 day Deadline Extension to June 11, 2004, was granted on January 28, 2004 to allow the facility time to install additional delineation wells, conduct a groundwater monitoring event, and use the obtained information to determine if a major amendment, or other corrective actions would be required. The facility has submitted reports to the TCEQ Corrective Action Section (CAS) to address the outstanding alleged violations and areas of concern. The CAS has reviewed the reports and has issued two Requests for Additional Information (RAIs) for the reports to the facility.

This extension is requested until December 10, 2004 to allow the facility and the CAS sufficient time to address the outstanding alleged violations and areas of concern. The facility has been requested by TCEQ letter dated June 15, 2004 to provide written monthly updates on the status of the responses to the RAIs.

☒ Recommend Approval

☐ Deny Approval

Don Thompson

Signature

6/15/04

Date



Protecting Texas
by Reducing and
Preventing Pollution

INTEROFFICE MEMORANDUM

DATE: December 11, 2003

TO: Don Thompson,
Regional Director, Region 12 - Houston

THROUGH *MM* Marsha Hill,
Waste Program Manager Region 12 - Houston
ny Rama Yadav,
Leader, Solid Waste Section Region 12 - Houston

FROM *CB* Charles Burner,
IHW Investigator Region 12 - Houston

SUBJECT: Enforcement Exception / 180 day Deadline Extension Request, Safety-
Kleen Systems, Inc., Missouri City Facility,
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

On May 29 and June 6, 2003 a Comprehensive Ground-Water Evaluation Investigation (CME) was conducted at the referenced facility. On July 23, 2003, a Notice of Violation letter was mailed to the facility which documented six alleged violations and ten areas of concern. To date one outstanding alleged violation has been resolved. The outstanding alleged violations and areas of concern address deficiencies in the groundwater monitoring well system and monitoring well sampling procedures for which approval of a major amendment to the Compliance Plan is required. An extension until June 11, 2004 is requested to allow the facility time to install additional delineation wells, conduct a groundwater monitoring event, and use the obtained information to prepare the major amendment for submittal to the Permit and Corrective Action Section.

☒ Recommend Approval

☐ Deny Approval

Don Thompson
Signature

1/22/04
Date

ATTACHMENT 6

TCEQ SAP approval letter

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



Charles Burner
R12

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 15, 2004

Mr. Gerhard L. Risse, P.E.
Safety-Kleen Systems, Inc.
4800 South Old Peachtree Road
Norcross, GA 30071

RE: Approval
Semi-Annual Groundwater Monitoring Report, dated July 20, 2004
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. 50236
EPA ID No. TXD010803203

Dear Mr. Risse:

The Texas Commission on Environmental Quality (TCEQ) Corrective Action Section (CAS) has reviewed the above referenced report. Based on our review, the report fulfills the reporting requirements of Provision VII of the Compliance Plan referenced above. The report provides groundwater results for sampling activities conducted in accordance with the Ground-Water Monitoring Program, Provision VI., and also provides additional information requested in the TCEQ letter dated April 7, 2004 discussed below. Based on our review, the report is considered approved.

The subject report addresses the TCEQ Corrective Action *Request for Information* letter dated April 7, 2004. The TCEQ letter provided comment and requested specific information pertaining to the *Sampling and Analysis Plan* (SAP), dated December 24, 2003. This additional information was provided in the subject groundwater report. Therefore, the SAP is considered approved. Please provide the revised SAP with your next semi-annual groundwater report, and maintain an approved copy at the facility as required per Provision VI. B. 2. of the Compliance Plan.

To document compliance with the Texas Professional Geoscience Act, the Remediation Division will not review reports and documents received on or after October 1, 2004 that contain unsealed geoscience services or work. Reports and documents with unsealed geoscience services or work will be returned to the submitting party. For further information, see the Texas Board of Professional Geoscientists website (<http://www.tbpg.state.tx.us>). Please direct all questions regarding what constitutes geoscience to the Board (512/936-4400).

RECEIVED

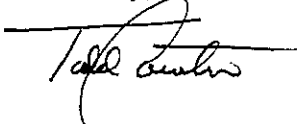
DEC 03 2004

REGION 12

Mr. Gerhard L. Risse
SWR No. 71144
Page 2
November 15, 2004

Questions concerning this letter should be directed to me at (512) 239-2591. When responding by mail, please submit an original and one copy of all correspondence and reports to the Corrective Action Section at Mail Code MC-127 with an additional copy submitted to the TCEQ Region 12 Office in Houston. The TCEQ Solid Waste Registration Number should be referenced in all submittals. Any issues regarding Safety-Kleen's Permit Renewal dated May 5, 2003 should be directed to Mr. Govi Darsi at (512) 239-6606, (Mail Code MC-130).

Sincerely,



C. Todd Counter, Project Manager
Team II, Corrective Action Section
Remediation Division

CTC/ctc

cc: Waste Program Manager, TCEQ Region 12 Office, Houston
Mr. Govi Darsi, I&HW Permits Section, TCEQ Waste Permits Division - Austin

ATTACHMENT 7

Safety-Kleen letter dated December 9, 2004

facsimile



TRANSMITTAL

from: Gerhard L. Risse, P.E. - Senior Project Manager - Engineering
to: Charlie Burner
fax #: 713-767-3616
copy: _____
re: Response letter for S-K Missouri City, TX
date: December 9, 2004
pages: _____, including this cover sheet.
Original Will X Will not follow by mail



Charlie,

Attached is a copy of S-K's response letter for the Missouri City, TX site. A hard copy has been put in the mail a to you as well. Please let me know if you have any questions.

GARY RISSE
Senior Remedial Manager
Safety-Kleen Systems, Inc.



December 9, 2004

Mr. Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Texas Commission on Environmental Quality
5425 Polk Ave., Suite H
Houston, Texas 77023-1486

Subject: Response to Additional Compliance Documentation Needed for:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, Texas
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

Dear Mr. Yadav:

This letter is intended to respond to the TCEQ letter dated June 15, 2004. Four outstanding alleged violations and 10 outstanding areas of concern are listed in the letter and are addressed below.

1. Compliance Plan No. CP-50236 Provision VI.B.1. and 2. Sampling and Analysis Plan - Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

The facility should maintain and utilize an appropriate SAP.

The alleged violation will be resolved upon review and approval of the SAP.

Safety-Kleen Response -

The submitted SAP was followed during the most recent semi-annual sampling event, which was conducted on July 22, 2004.

Safety-Kleen was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

2. Compliance Plan No. CP-50236 Provision V.A.1.2. and 4. Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line," and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that Chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

SK proposed the submittal of a major amendment to the Compliance Plan to increase the Ground Water Protection Standard (GWPS) from non-detect to the TRRP Tier-1 GW Protective Concentration Level. The submittal of the major modification was initially anticipated by Safety-Kleen to occur by February 26, 2004, but is still being prepared.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of contamination.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

Safety-Kleen Response -

S-K will insure that the groundwater impacts are delineated to the existing GWPS northwest and northeast of MW-2 and MW-3. Analytical results from the most recent semi-annual sampling event (February 12, 2004) show stable or decreasing Chlorobenzene concentrations in all wells. There were no detected Chlorobenzene concentrations in the sample from MW-2.

None of the wells associated with the Site had Chlorobenzene concentrations at or above the TRRP Tier 1 PCL for residential ingestion, based on data collected during the February 12, 2004 sampling event. As shown in the latest Semi-Annual Groundwater Monitoring Report, there is no real gradient at the site.

3. Compliance Plan No. CP-50236 Provision III.E.2. referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

SK stated that the required information would be included in the Compliance Plan major amendment not yet submitted.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

The alleged violation will be resolved upon review and approval of the SAP.

Safety-Kleen Response –

ATC retained the services of Atlas Environmental to locate the well construction details for wells MW-5 through MW-7 and the associated 1991 report (Canonie Environmental). The drilling and construction details, as available, for each well at the site were modified to include all available required information and a copy will be stored onsite. The revised information was submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, for review.

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

4. Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

S-K stated that the information has been included in the SAP and on field sampling sheets.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

The alleged violation will be resolved upon review and approval of the SAP.

Safety-Kleen Response –

The updated form with the required information in the SAP was used during most recent sampling events at the site (February 12, 2004 and July 22, 2004). The forms were included in the most recent Semi-Annual Report, dated July 20, 2004.

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

Alleged Violation Resolved**1. Permit Provision IV.B.1 Authorized Wastes**

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The August 18, 2003 Safety-Kleen response letter to the TCEQ Notice of Violation letter stated that "in the future all evacuated groundwater will be placed in a compatible storage drum to the stored in the permitted container storage area...".

The alleged violation is resolved based upon the corrective action documentation in the facility's August 18, 2003 letter to the TCEQ.

Outstanding Areas of Concern

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

Safety-Kleen Response -

Safety-Kleen resurveyed the monitoring wells in June of 2003 to eliminate any inconsistencies in previous survey data. There is no reasonable explanation for the apparent changes in well casing elevations. The only two possibilities are that 1) the initial survey data was flawed, or 2) the site soils have subsided and affected the actual well completion elevations.

Based on groundwater elevation data collected from the two most recent groundwater monitoring events, which utilized the most recent survey data, there seems to be very little gradient across the site (0.001 foot/foot). This data is consistent with previous results from historic sampling events and with regional groundwater elevation data. There is no data to support the presence of three sand Zones in the groundwater monitoring system at the site. A review of all the well installation logs confirms that only one well even had the possibility of having

encountered two Zones (MW-5). MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7, located on the opposite side of the site. Groundwater gradients at the site have always been minimal. Historic gradients have generally been toward MW-8 and MW-9, and RW-1. S-K proposes to resurvey the site wells at a minimum of every two years, in accordance with the compliance plan, to determine if the casing elevations are changing over time.

Regardless of the discrepancies in the casing elevations, S-K believes that the historical site groundwater flow data should be looked at empirically. Site assessment activities were performed in accordance with State guidelines applicable at the time. Groundwater impacts were previously delineated in each direction, horizontally and vertically. Each phase of the investigation was approved by the State prior to beginning corrective actions. In the extreme and unlikely situation that a gradient reversal may have occurred, the perimeter wells still demonstrate that delineation has been achieved.

The previous depth to water data has been reviewed and no revisions are believed to be necessary for previous gradient maps. In addition, the dissolved-phase plume has shown to be stable and decreasing and is delineated in all directions. Therefore, S-K believes this area of concern to be resolved.

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

Safety-Kleen Response –

Based on a review of the boring logs from all wells located at the site, the organic vapors measured in the soils during drilling were found to be zero (0) or rapidly approaching zero (0) as the borings reached their total depth, except for the soils in MW-2. Well MW-2 was only bored to a depth of 20 feet below ground surface.

Again, upon review of the soil logs, there does not appear to be three sand Zones encountered by wells at this site. Only one well (MW-5) even has the remote possibility of having encountered two Zones. MW-5 is the furthest well from the Unit AA. A similar Zone does not appear in MW-6 and MW-7, located on the opposite side of the site. S-K provided a cross-section to the TCEQ, which documents the existence of only one identified zone at the site. The sand layer from 29-30 feet, encountered in MW-5, was not found in any other boring at the site. S-K

does not understand the rationale or timing for this discussion of multiple sand zones. As stated earlier, all previous assessment activities were performed pursuant to State guidelines and each implemented phase received approval. The concern for multiple zones has never been an issue at this site; particularly given that the released constituents are all lighter than water and would not tend to migrate vertically.

The dissolved-phase hydrocarbons at the site have a specific gravity less than that of water. Therefore, this site should not be treated like one where DNAPL is present. In addition, the aquifer characteristics of the site are under confined conditions. This would further reduce any downward migration. The screened interval for wells MW-1 through MW-3 are approximately 2.5 feet to 20 feet below ground surface. The screened intervals for wells MW-4 through MW-12, and RW-1 are all approximately 10 to 20 feet below ground surface. The aquifer is located approximately 14 to 19 feet below ground surface.

S-K does not believe that additional assessment is necessary at this site.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

Safety-Kleen Response -

Again, upon review of the soil logs, there does not appear to be three sand Zones encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. A sand was encountered at a depth of 29 to 30 feet in the boring for well MW-5. The well for MW-5 was set to a depth of 18 feet below ground surface. Well MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7 (the other two deep wells), located on the opposite side of the site. RW-1 does not penetrate a deep sand as the well was installed in the former MW-4 location which was only bored to a depth of 22 feet below ground surface.

Even if two zones were identified in the borings, based on the narrow range of the location of the aquifer (14 to 19 feet), it would not possible to determine the aquifer connectivity between to so closely related "zones." S-K does not believe that additional assessment is necessary at this site.

4. During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump." The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA-approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Safety-Kleen Response -

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

5. A rented flow through cell was used to measure purge water parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Safety-Kleen Response -

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

6. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Safety-Kleen Response -

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

7. No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Safety-Kleen Response –

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

8. The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Safety-Kleen Response –

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

9. During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Safety-Kleen Response –

The proposed SAP was prepared based on discussions between TCEQ and S-K personnel. The most recent sampling event was conducted in accordance with the proposed SAP. S-K was notified that the SAP was approved by the TCEQ in a letter dated November 15, 2004.

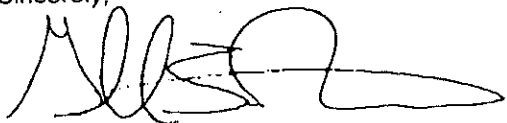
Resolved Area of Concern

1. Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

The November 26, 2003 response letter documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

Safety-Kleen appreciates the TCEQ's assistance on completing this project. If you have any questions, please contact Mr. Gary Risse with Safety-Kleen at (770) 418-1860 or Mr. Hal G. Kuntz II with ATC Associates at (281) 240-0154.

Sincerely,



Gerhard L. Risse, P.E.
Senior Remedial Manager - Safety-Kleen

Enclosures

cc: Todd Counter, TCEQ Remediation Division, Corrective Action Section, MC-127, Austin, Texas
Charles Burner, TCEQ, Region 12, 5425 Polk Ave, Suite H, Houston, Texas
Ricardo Saucedo, P.E., Safety-Kleen, San Antonio, Texas
Hal G. Kuntz II, P.G., ATC Associates, Houston, Texas

ATTACHMENT 8

TCEQ Request for Additional Information Letter Dated December 5, 2003

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 5, 2003

Mr. Gerhard L. Risse, P.E.
Safety-Kleen Systems, Inc.
4800 South Old Peachtree Road
Norcross, GA 30071

CERTIFIED MAIL#4761
RETURN RECEIPT REQUESTED

RE: Request for Additional Information
First Semi-Annual Groundwater Monitoring Report, dated August 7, 2003
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. 50236
EPA ID No. TXD010803203

RECEIVED
DEC 09 2003
REGION 12

Dear Mr. Risse:

The Texas Commission on Environmental Quality (TCEQ) Corrective Action Section (CAS) has reviewed the above referenced report. Based on our review, the report does not fulfill the reporting requirements of Provision VII of the Compliance Plan referenced above. Discussed below, the TCEQ is requesting additional information. Following facility inspections on May 29 and June 6, 2003, TCEQ Region 12 provided Safety-Kleen with a letter dated November 6, 2003 requesting additional compliance information for areas of concern at the subject facility. In a response letter dated November 26, 2003, Safety-Kleen provided TCEQ Region 12 with some additional information to address these concerns and proposes to submit by March 2004, a Compliance Plan Major Amendment in order to increase groundwater protection standard from non-detect to 30 Texas Administrative Code (TAC) Chapter 350 (TRRP) Tier 1 Protective Concentration Levels (PCLs). The information requested below by TCEQ CAS references some comments from the TCEQ Region 12 letter and acknowledges planned future assessment activities detailed in the Safety-Kleen letter November 26, 2003.

Sampling and Analysis Plan (SAP)

In accordance with Provision No. 3 of the above referenced compliance plan, Safety-Kleen must submit a updated and accurate sampling and analysis plan (SAP) (see Alleged Violation Comment No. 1). In addition, the SAP must include all analyses of all natural attenuation parameters needed to fulfill the requirements of Provision 3 (MNA Performance Reporting). Per Provision VI.B.1, the revised SAP will be incorporated into the Compliance Plan at the beginning of the first quarter following TCEQ approval.

Site COC Extent Delineation

The lateral extent of contaminated groundwater for chlorobenzene is unknown beyond MW-2 to the north and northeast, and MW-3 to the north and northwest. In accordance with the Response and Reporting Requirements, Provision VII.A.2, the Permittee must initiate an investigation to determine the extent of contamination based on Practical Quantitation Limits (PQL)s. In the letter dated November 26, 2003,

Mr. Gary Risse, P.E.

SWR No. 71144

Page 2

December 5, 2003

Safety-Kleen states that new monitor wells will be installed to fully delineate the indicator parameters listed in Table III of the Compliance Plan to the analytical PQL and sampled in accordance with the approved SAP. Please ensure that all wells are installed in accordance with Attachment B of the Compliance Plan.

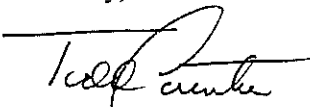
Groundwater Gradient

The groundwater direction and gradient is in question for the site. Identified in Table 1 of the subject report, recent surveys conducted at all monitor wells (top of casing) indicates a historic variance in elevation from 0.03 to 0.89 feet. Safety-Kleen must reevaluate the groundwater elevation and gradient for the site and provide an accurate potentiometric surface map of site groundwater as required per Provision VII.C.1.b. of the Compliance Plan.

In accordance with Provision VII.C.2.t. of the Compliance Plan, to clarify and ensure that all water-bearing zones are identified at the site, please provide transect longitudinal and latitudinal hydrogeologic cross sections utilizing all existing and any new boring soil logs. All monitor well locations, screened intervals and associated geologic boring information, current well survey, and static water levels as compared to Mean Sea Level (MSL) must be included in the cross section information.

To ensure accurate site information is included with future facility documents, please submit the information requested above within 60 days from the date of this letter for review and approval prior to submittal of any application materials. An original and one copy of future reports must be submitted to the TCEQ at the letterhead address using mail code number MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location, and identification number(s) in the TCEQ reference line above should be included with the report. Please use Mail Code 127 (MC-127) when responding by mail. Any issues regarding Safety-Kleen's Permit Renewal dated May 5, 2003 should be directed to Mr. Govi Darsi at (512) 239-6606, (Mail Code MC-130).

Sincerely,



C. Todd Counter, Project Manager
Team II, Corrective Action Section
Remediation Division

CTC/ctc

cc: Waste Program Manager, TCEQ Region 12 Office, Houston
Mr. Govi Darsi, I&HW Permits Section, TCEQ Waste Permits Division - Austin

Texas Commission on Environmental Quality

Investigation Report

SAFETY-KLEEN SYSTEMS INC

SAFETY-KLEEN MISSOURI CITY 6 073 02

RN100717677

Investigation # 253592

Incident #

Investigator: CHARLES BURNER

Site Classification

LARGE QUANTITY GENERATOR
CONTAINER STORAGE AREA
TANK (SURFACE)
MISCELLANEOUS STORAGE
CONTAINERS

Conducted: 06/01/2004 -- 06/03/2004

SIC Code: 7389

NAIC Code: 532299

Program(s): INDUSTRIAL AND HAZARDOUS WASTE STORAGE
INDUSTRIAL AND HAZARDOUS WASTE GENERATION
INDUSTRIAL AND HAZARDOUS WASTE DISPOSAL
CORRECTIVE ACTION

Investigation Type : Compliance Invest File Review Location : 1580 INDUSTRIAL RD

Additional ID(s) : 50236
TXD010803203
71144

Address: 1580 INDUSTRIAL DR;
MISSOURI CITY, TX 77489

Activity Type : IHW NRR - Record Review of Information
Submitted to the Agency

Principal(s) :

Role

Name

RESPONDENT

SAFETY-KLEEN SYSTEMS INC

Contact(s) :

Role

Title

Name

Phone

Other Staff Member(s) :

Role

Name

QA REVIEWER
SUPERVISOR

EDGAR ST. JAMES JR
RAMA YADAV

WST IHW/ INSPECTION REPORTS

1st: 71144 2nd: Vol: 001

6/1/2004

BBC: 66133829

IBC: 100324332



Associated Check List

Checklist NameUnit Name

IHW INVESTIGATION TYPES FY04

Activity - 71144

FILE REVIEW-IHW

File Review - 71144

IHW GENERIC OTHER ISSUES OR VIOLATIONS

71144-Generic checklist

IHW GENERIC OTHER ISSUES OR VIOLATIONS

Areas of Concern

Investigation Comments :

INTRODUCTION

On June 1 through 3, 2004, Charles Burner, Environmental Investigator of the Texas Commission on Environmental Quality (TCEQ) Region 12 Office conducted a IHW Record Review (RR) for the Safety-Kleen Systems Inc., Missouri City Facility (SK). The RR was conducted to evaluate several facility responses to a November 6, 2003 TCEQ letter requesting additional compliance

documentation for outstanding alleged violations and areas of concern from a Comprehensive Ground-Water Monitoring Evaluation (CME) conducted at the facility.

BACKGROUND

On May 29 and June 6, 2003 a Comprehensive Ground-Water Evaluation Investigation (CME) was conducted at the referenced facility. On July 23, 2003, a Notice of Violation letter was mailed to the facility which documented five outstanding alleged violations and ten outstanding areas of concern. The facility responded to the NOV on August 18, 2003. On November 6, 2003 a TCEQ letter entitled "Additional Compliance Documentation Needed" was sent to the facility. The letter resolved one alleged violation and requested additional information regarding the remaining four outstanding alleged violations and ten areas of concern.

The facility responded to the November 6, 2003 TCEQ letter on November 26, 2003. The submittal addressed two of the outstanding alleged violations and four of the outstanding areas of concern by proposing the submittal of a Compliance Plan Major Amendment, See Attachment 1. The amendment was to be submitted to the TCEQ Permit Section for administrative review, and then to the TCEQ Corrective Action Section for technical review. To allow the facility sufficient time to prepare a technically sufficient amendment an Enforcement Exception / 180 day Deadline Extension was approved on January 28, 2004. The extension moved the deadline to June 11, 2004, See Attachment 2.

To address the two remaining outstanding alleged violations and six of the areas of concern a revised Sample and Analysis Plan (SAP) was submitted to the agency on August 18, 2003, See Attachment 3. As the SAP is a Compliance Plan requirement, review is required by the TCEQ Corrective Action Section. On April 7, 2004 the TCEQ Corrective Action Section issued a Request for Additional Information (RAI) for the SAP to the facility. The facility was required to respond to the RAI by June 7, 2004. The SAP and RAI are included in Attachment 4. The TCEQ Corrective Action System is working with the facility to resolve noted deficiencies in the SAP.

To address the three remaining outstanding areas of concern the TCEQ Corrective Action Section submitted another Request for Additional Information to the facility on December 5, 2003, See Attachment 4, for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. Because the Corrective Action Section is working with the facility to address the outstanding alleged violations and areas of concern the Houston Region Office submitted a second request for an Enforcement Exception / 180 day Deadline Extension Request with this report. The outstanding alleged violations and areas of concern will be resolved when the Corrective Action Section determines that the facility has adequately addressed all outstanding issues.

Below is a summary of the outstanding alleged violations from the investigation and the corrective action proposed for each item.

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS

1.) Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

- The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

The facility should maintain and utilize an appropriate SAP.

The alleged violation will be resolved upon review and approval of the SAP.

2.) Compliance Plan No. CP-50236 Provision V.A.1.2. and 4, Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Groundwater Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and

the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

- SK proposed the submittal of a major amendment to the Compliance Plan to increase the Ground Water Protection Standard (GWPS) from non-detect to the TRRP Tier-1 GW Protective Concentration Level. The submittal of the major modification was initially anticipated by Safety Kleen to occur by February 26, 2004, but is still being prepared.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

3.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

- SK stated that the required information would be included in the Compliance Plan major amendment not yet submitted.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

4.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

- SK stated that the information has been included in the SAP and on field sampling sheets.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

The alleged violation will be resolved upon review and approval of the SAP.

SUMMARY OF RESOLVED ALLEGED VIOLATIONS

1. Permit Provision IV.B.1 Authorized Wastes

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

- The August 18, 2003 Safety-Kleen response letter to the TCEQ Notice of Violation letter stated that "in the future all evacuated groundwater will be placed in a compatible storage drum to be stored in the permitted container storage area . . . ".

The alleged violation is resolved based upon the corrective action documented in the facility's

August 18, 2003 letter to the TCEQ.

SUMMARY OF OUTSTANDING AREAS OF CONCERN

1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

- The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals, the facility was unable to provide the assessments for review during this investigation.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

4.) During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

- EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

The outstanding area of concern will be resolved upon review and approval of the SAP.

5.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

- All equipment should be calibrated per EPA guidance.

The outstanding area of concern will be resolved upon review and approval of the SAP.

6.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

7.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

8.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

9.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Summary of Resolved Areas of Concern:

1.) Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

The November 26, 2003 response letter documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

ALLEGED NONCOMPLIANCES NOTED AND RESOLVED

Track No: 82858

Resolution Date: 10/29/03

PERMIT IV.B.1

Authorized Wastes

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

The permittee is authorized to manage wastes listed in Permit Table IV.B. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

Investigation: 253592

Comment Date: 10/30/2003

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

Recommended Corrective Action: The facility should ensure that contaminated groundwater is appropriately managed and disposed.

Resolution: The August 18, 2003 Safety-Kleen response letter to the TCEQ Notice of Violation letter stated that "in the future all evacuated groundwater will be placed in a compatible storage drum to be stored in the permitted container storage area . . . " .

OUTSTANDING ALLEGED VIOLATIONS

Track No: 82829

Compliance Due Date: 12/10/04

PERMIT Compliance Plan Provision VI.B. 1. and 2

Sampling and Analysis Plan (SAP)

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

Investigation: 253592

Comment Date: 06/10/2004

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation. The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

Recommended Corrective Action: The facility should maintain and utilize an appropriate SAP.

The alleged violation will be resolved upon review and approval of the SAP.

Resolution:

Track No: 82844

Compliance Due Date: 12/10/04

PERMIT Compliance Plan Provision V.A.1,2, and 4

Performance Standard

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

The permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

Investigation: 253592

Comment Date: 06/10/2004

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3. SK proposed the submittal of a major amendment to the Compliance Plan to increase the Ground Water Protection Standard (GWPS) from non-detect to the TRRP Tier-1 GW Protective Concentration Level. The submittal of the major modification was initially anticipated by Sk to occur by February 26, 2004, but is still being prepared.

Recommended Corrective Action: The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the

Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

Resolution:

Track No: 82850 Compliance Due Date: 12/10/04**PERMIT Compliance Plan III.E.2, ref Att. B-13**
Well Construction**Alleged Violation:**

Investigation: 112845

Comment Date: 07/22/2003

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

Investigation: 253592

Comment Date: 06/10/2004

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan. SK stated that the required information would be included in the Compliance Plan major amendment not yet submitted.

Recommended Corrective Action: The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

Resolution:

Track No: 82867 Compliance Due Date: 12/10/04**PERMIT Compliance Plan Provision VI.C.4.c.**
Field Determination Requirements**Alleged Violation:**

Investigation: 112845

Comment Date: 07/22/2003

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

Investigation: 253592

Comment Date: 06/10/2004

Field observations including descriptions of the appearance (Clarity, color, etc.) shall be recorded. The field data sheets do not record all required information. SK stated that the information has been included in the SAP and on field sampling sheets. The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

Recommended Corrective Action: The alleged violation will be resolved upon review and approval of the SAP.

Resolution:**Areas of Concern**DescriptionAdditional Comments

Item #1

Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III.

Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

Item #2

A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

Item #3

Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

Item #4

Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

The November 26, 2003 response letter documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

Item #5

During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Item #6

A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Item #7

Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Item #8

No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Item #9

The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

Item #10

All sampling should be conducted utilizing EPA approved methodology.

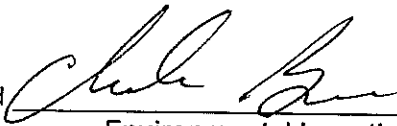
The outstanding area of concern will be resolved upon review and approval of the SAP.

During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

Signed

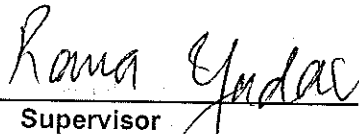


Environmental Investigator

Date

6/15/04

Signed



Supervisor

Date

6/15/04

Attachments: (in order of final report submittal)

☐ Enforcement Action Request (EAR)

☒ Letter to Facility (specify type) : letter

☐ Investigation Report

☐ Sample Analysis Results

☐ Manifests

☐ NOR

☐ Maps, Plans, Sketches

☐ Photographs

☒ Correspondence from the facility

☒ Other (specify) :

List of Attachments

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

June 15, 2004

CERTIFIED MAIL # 7002 2030 0003 4754 2678
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager
Safety-Kleen Corporation
5243 Sinclair Road
San Antonio, Texas 78222

Re: Record Review Investigation for:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City,
(Fort Bend County), Texas
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

Dear Mr. Saucedo:

On May 29, and June 6, 2003, Charles C. Burner, of the Texas Commission on Environmental Quality (TCEQ) Houston Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for industrial solid waste. A Notice of Violation was issued to Safety-Kleen Systems, Inc. (SKS), on July 23, 2003, for five alleged violations and ten areas of concern. SKS was requested to take corrective action by August 23, 2003 to resolve the violations and areas of concern. SKS responded to the letter on August 18, 2003.

On November 6, 2003, a TCEQ letter entitled "Additional Compliance Documentation Needed" was sent to SKS. The letter resolved one alleged violation and one area of concern. SKS responded to the November 6, 2003 letter on November 26, 2003. The response proposed to address the remaining alleged violations and areas of concern with the submittal of a Compliance Plan Major Amendment, and a Sampling and Analysis Plan (SAP).

The Corrective Action Section submitted a Request for Additional Information (RAI) to the facility on December 5, 2003, for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. On April 7, 2004, after reviewing the SAP, the TCEQ Corrective Action Section also issued a RAI for the SAP to the facility. The two RAIs address all the outstanding alleged violations and areas of concern.

TCEQ policy specifies time frames within which outstanding violations should be resolved to avoid formal enforcement. To avoid initiation of enforcement, on January 28, 2004, the TCEQ Region Office obtained approval to extend the enforcement deadline to June 11, 2004. To allow the facility adequate time to respond to the requests for additional information, the enforcement deadline has been extended a second time, to December 10, 2004. However, this extension is conditional upon SKS providing written monthly updates on the status of the responses to the RAIs. Please submit this report to the undersigned by the 30th of each month beginning in July 2004. Failure to comply may result in initiation of formal enforcement. Enclosed is a summary which lists the remaining outstanding alleged violations, and areas of concern.

Safety-Kleen Corporation


REPLY TO: REGION 12 • 5425 POLK AVE., STE. H • HOUSTON, TEXAS 77023-1486 • 713/767-3500 • FAX 713/767-3520

Safety-Kleen Corporation
June 15, 2004
Page -2-

The Texas Commission on Environmental Quality appreciates your assistance in this matter. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements. We anticipate that you will resolve the alleged violations as required in order to protect the State's environment.

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone #(713) 767-3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Leader, Solid Waste Section
Houston Region

RSY/CCB/lz

Enclosure: Summary of Investigation Findings

cc: Mr. Gerhard L. Risse, P.E., Senior Remedial Manager, Safety-Kleen, 4800 South Old Peachtree Road, Norcross, Ga 30071
Mr. Hal Kuntz, ATC. Associates, 3928 Bluebonnet Dr, Stafford TX 77477
Mr. Todd Counter, TCEQ Remediation Division, Corrective Action Section, MC127

Summary of Investigation Findings

Safety-Kleen Corp., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.:71144, EPA ID No.: TXD010803203, Permit No.: 50236
IHW Record Review Investigation
Investigation Date: June 1 through June 3, 2004

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS

1.) Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

- The facility submitted a revised SAP on December 24, 2003. The SAP was submitted to TCEQ Houston Region Office, and Mr. Todd Counter of the TCEQ Corrective Action Section for review.

The facility should maintain and utilize an appropriate SAP.

The alleged violation will be resolved upon review and approval of the SAP.

2.) Compliance Plan No. CP-50236 Provision V.A.1.2. and 4, Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Groundwater Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

- SK proposed the submittal of a major amendment to the Compliance Plan to increase the Ground Water Protection Standard (GWPS) from non-detect to the TRRP Tier-1 GW Protective Concentration Level. The submittal of the major modification was initially anticipated by Safety Kleen to occur by February 26, 2004, but is still being prepared.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

3.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

- SK stated that the required information would be included in the Compliance Plan major amendment

not yet submitted.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

The alleged violation will be resolved upon approval of the major amendment, not yet submitted.

4.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

- SK stated that the information has been included in the SAP and on field sampling sheets.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

The alleged violation will be resolved upon review and approval of the SAP.

ALLEGED VIOLATION RESOLVED

1.)1. Permit Provision IV.B.1 Authorized Wastes

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

- The August 18, 2003 Safety-Kleen response letter to the TCEQ Notice of Violation letter stated that "in the future all evacuated groundwater will be placed in a compatible storage drum to be stored in the permitted container storage area".

The alleged violation is resolved based upon the corrective action documented in the facility's August 18, 2003 letter to the TCEQ.

OUTSTANDING AREAS OF CONCERN

- 1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

- The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

- 2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been

adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

- 3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals, the facility was unable to provide the assessments for review during this investigation.
- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The TCEQ Corrective Action Section submitted a Request for Additional Information (RAI) to the facility for the facility's First Semi-Annual Monitoring Report, dated August 7, 2003. The letter requires the facility to address this area of concern.

- 4.) During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.
- EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

The outstanding area of concern will be resolved upon review and approval of the SAP.

- 5.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.
- All equipment should be calibrated per EPA guidance.

The outstanding area of concern will be resolved upon review and approval of the SAP.

- 6.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.
- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

- 7.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.
- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

- 8.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.
- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

- 9.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

- All sampling should be conducted utilizing EPA approved methodology.

The outstanding area of concern will be resolved upon review and approval of the SAP.

RESOLVED AREA OF CONCERN

- 1.) Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

The November 26, 2003 response letter documented that the recovery system components have been removed from the well bore. The area of concern is considered resolved.

LIST OF ATTACHMENTS

- ATTACHMENT 1 – Safety-Kleen November 26, 2003 Letter
- ATTACHMENT 2 – July 23, 2003 TCEQ Notice of Violation Letter, and Letter requesting additional compliance documentation
- ATTACHMENT 3 – Safety-Kleen August 18, 2003
Draft Sample and Analysis Plan
- ATTACHMENT 4 – December 5, 2003 TCEQ Request for Additional Information
- ATTACHMENT 5 – Exception / 180 day Deadline Extension

ATTACHMENT 1

Safety-Kleen November 26, 2003 Letter



November 26, 2003

Mr. Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Texas Commission on Environmental Quality
5425 Polk Ave., Suite H
Houston, Texas 77023-1486

RECEIVED
DEC 01 2003
REGION 12

Subject: Response to Additional Compliance Documentation Needed for:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, Texas
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

Dear Mr. Yadav:

This letter is intended to respond to the TCEQ letter dated November 6, 2003, which documents the need for additional compliance documentation needed for the above referenced site. Four outstanding alleged violations and 10 outstanding areas of concern are listed in the letter and are addressed below.

1. Compliance Plan No. CP-50236 Provision VI.B.1. and 2. Sampling and Analysis Plan - Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should submit a Compliance Plan amendment that addresses the alleged violation to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response -

The SAP will be expanded to include all required details and will be submitted to Mr. Todd Counter with the TCEQ, and the TCEQ Region Office, by December 26, 2003. The submittal will be included in a forthcoming compliance plan major amendment (see item 2 below and attached schedule).

2. Compliance Plan No. CP-50236 Provision V.A.1.2. and 4. Performance Standard
The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being

effectively contained and/or remediated. Sample results for recent sampling events indicate that Chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should submit a Compliance Plan amendment that addresses the alleged violation to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response –

S-K will insure that the groundwater impacts are delineated to the existing GWPS northwest and northeast of MW-2 and MW-3. Upon installation of any additional delineation wells, monitoring and sampling will be performed in accordance with the new SAP. The next semi-annual monitoring and sampling event is scheduled for November, 2003. S-K proposes that this event be delayed until the additional wells are installed. S-K anticipates that a semi-annual report will be submitted to the TCEQ by January 26, 2003, which will address any new well installation and semi-annual groundwater sampling activities.

Safety-Kleen proposes to submit a Compliance Plan Major Amendment in order to increase the GWPS from Non-Detected to the TCEQ Texas Risk Reduction Standard (TRRP) Tier 1 Class III Groundwater PCL for Ingestion, Residential. The only well associated with the Site that has a Chlorobenzene concentration at or above the TRRP Tier 1 PCL for any constituent is RW-1. As shown in the latest Semi-Annual Groundwater Monitoring Report, there is no real gradient at the site. The Major Amendment has not already been completed as S-K has been investigating the need for further delineation of the dissolved-hydrocarbon plume at the site. S-K anticipates completion of delineation and submittal of a Major Amendment by February 26, 2003.

3. Compliance Plan No. CP-50236 Provision III.E.2. referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan. The information should be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response –

ATC retained the services of Atlas Environmental to locate the well construction details for wells MW-5 through MW-7 and the associated 1991 report (Canonie Environmental). The drilling and construction details, as available, for each well at the site will be modified to include all required information and a copy will be stored onsite. The revised information will be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

4. Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

The facility should submit the revised field data sheet(s) to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Safety-Kleen Response –

The form will be updated to include the required information in the SAP and used during future sampling events at the site. The form will be sent to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Summary of Outstanding Areas of Concern:

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

Safety-Kleen Response –

Based on the most recent groundwater data, there seems to be very little gradient across the site (0.24 feet). Upon review of the soil logs, there does not appear to be three sand Zones encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7, located on the opposite side of the site. There is little evidence of a distinct gradient at the site. Historical gradients have generally been to the east toward MW-8 and MW-9, and RW-1 is located to the west of Unit AA, there is at least one point of compliance well in the downgradient direction. The wells will be resurveyed at a minimum every two years to determine if the casing elevations have changed. It is probable that the installation of the additional delineation wells will provide valuable additional data concerning the gradient at the site.

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

Safety-Kleen Response –

Again, upon review of the soil logs, there does not appear to be three sand Zones

encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7, located on the opposite side of the site.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide assessments for review during this investigation.

Safety-Kleen Response –

Again, upon review of the soil logs, there does not appear to be three sand Zones encountered by wells at this site. Only one well even has the possibility of having encountered two Zones and that is MW-5. MW-5 is the furthest well from the Unit AA. The Zone does not appear in MW-6 and MW-7 (the other two deep wells), located on the opposite side of the site.

4. Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.

Safety-Kleen Response –

The recovery system components were removed on July 3, 2003. Before and after photos are attached.

5. During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump." The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

Safety-Kleen Response –

An EPA approved/recommended pump will be used when purging wells during future groundwater sampling events. The specifications will be included in the SAP.

6. A rented flow through cell was used to measure purge water parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

Safety-Kleen Response –

The water parameter flow through cell will be calibrated immediately prior to purging wells during future groundwater sampling events. This step will be included in the SAP. In addition, the technicians have been re-trained on proper sampling techniques and procedures.

7. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

Safety-Kleen Response –

A trip blank will be included during future groundwater sampling events. This will be included in the SAP.

8. No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

Safety-Kleen Response –

A duplicate sample and field blank will be collected during future groundwater sampling events. This will be included in the SAP.

9. The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

Safety-Kleen Response –

The COC will be completed in full detail during future groundwater sampling events. In addition, the COC will be signed by the samplers. The specifications will be included in the SAP.

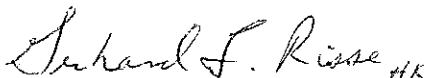
10. During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

Safety-Kleen Response –

While this is an approved method for wells with slow recharge, this practice will be adjusted to pump nearer the surface and the pump will be continually lowered as the water level falls. An EPA approved purge method will be used when purging wells during future groundwater sampling events. The specifications will be included in the SAP.

Safety-Kleen appreciates the TCEQ's assistance on completing this project. If you have any questions, please contact Mr. Gary Risse with Safety-Kleen at (770) 418-1860 or Mr. Hal G. Kuntz II with ATC Associates at (281) 240-0154.

Sincerely,

Handwritten signature of Gerhard L. Risse in cursive, with initials "HK" at the end.

Gerhard L. Risse, P.E.
Senior Remedial Manager - Safety-Kleen

Enclosures

cc: Ricardo Saucedo, P.E., Safety-Kleen, San Antonio, Texas
Hal G. Kuntz II, P.G., ATC Associates, Houston, Texas

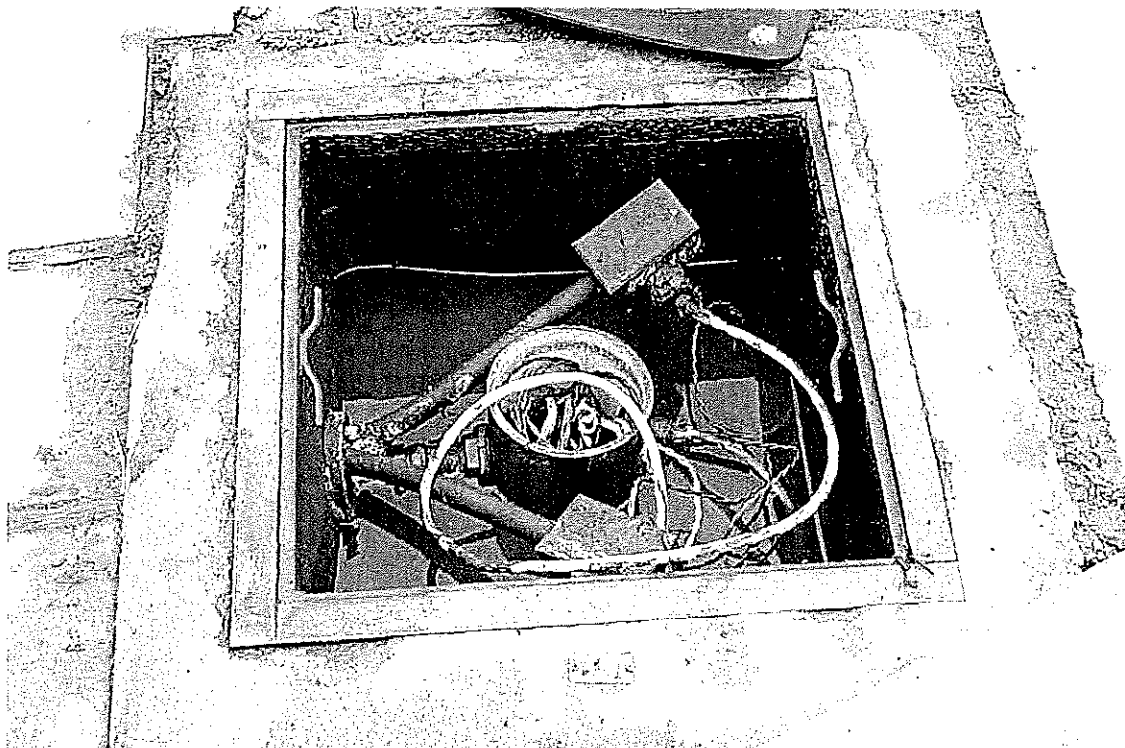


Photo 1 – View of RW-1 prior to removal of hoses and wires associated with former remediation system.

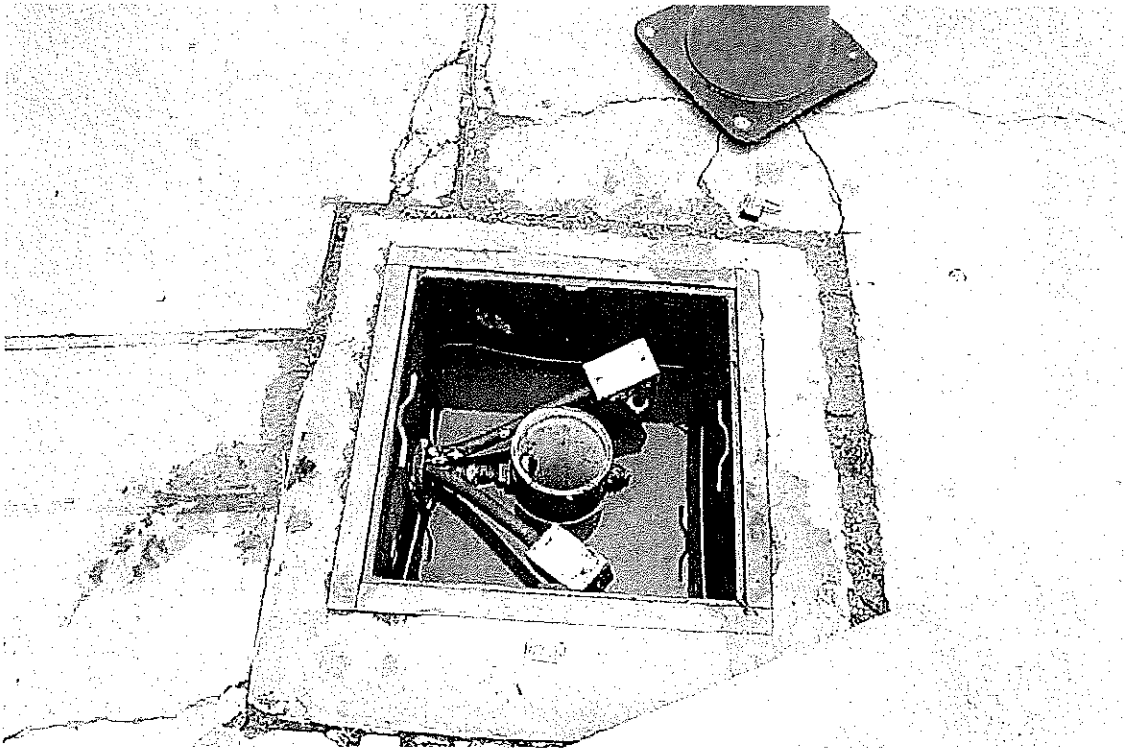


Photo 1 – View of RW-1 after removal of hoses and wires associated with former remediation system.

General Lithologic Summary
Safety-Kleen
1580 Industrial Boulevard
Missouri City, Texas

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	RW-1
0	concrete and fill									
1	bl cl	bl cl	bl cl	bl cl	bl cl	bl cl	bl cl	red cl	red cl	bl cl
2										
3										
4		tan cl	tan cl				gry cl	gry cl		
5	tan cl			red cl		red cl			gry cl	
6				red s				gry cl		
7		red cl								
8	red cl		red cl							
9				red cl		red cl	red cl			red cl
10		red s			red slcl					
11			red s							
12										
13		red s			red sl	red sl			gr ssl	red sl
14	red s									
15			red s-cl				red ssl	gr ssl		
16					red sl	red cl				
17										red cl
18	red cl	red cl								red cl
19				red s		red sls	red cl			red sls
20			red s	red cl		red cl		red cl		
21			red cl							red cl
22										
23										
24										
25										
26										
27										
28										
29										
30										

Notes: Clays and silty clays are highlighted in yellow
 bl - black
 gry - gray
 cl - clay
 s - sand
 sl - silt
 slcl - silty-clay
 sls - silty-sand
 ssl - sandy-silt

SCHEDULE OF EVENTS

**SAFETY-KLEEN
1580 INDUSTRIAL BOULEVARD
MISSOURI CITY, TEXAS**

ACTIVITY	November	December	January	February	March
	3-9 10-16 17-23 24-30 1-7	8-14 15-21 22-28 29-31 1-4	5-12 13-19 20-26 27-31 1-8	9-15 16-22 23-29 23-29 1-8	9-15 16-22 23-29 30-31
Completed Well Logs					
Sampling & Analysis Plan					
Delineation Wells					
Semi-Annual Sampling Event					
Semi-Annual Report					
Major Amendment					

ATTACHMENT 2

July 23, 2003 TCEQ Notice of Violation Letter,
and Letter requesting additional compliance documentation

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 23, 2003

CERTIFIED MAIL # 7001 2510 0007 0184 9254
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.,
Environmental, Health & Safety Manager
Safety-Kleen Corporation
5243 Sinclair Road
San Antonio, Texas 78222

Re: Notice of Violation for the Comprehensive Ground-Water Evaluation Investigation at:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, (Fort Bend
County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

On May 29 and June 6, 2003, Charles Burner of the Texas Commission on Environmental Quality (TCEQ) Houston Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for industrial solid waste. Enclosed is a summary which lists the investigation findings. During the investigation, some concerns were noted which were alleged noncompliances that have been resolved through verbal notification and subsequent corrective action. In addition, certain outstanding alleged violations were identified for which compliance documentation is required. Please submit to this office by August 23, 2003 a written description of corrective action taken and the required documentation demonstrating that compliance has been achieved for each of the outstanding alleged violations.

In the listing of alleged violations, we have cited applicable requirements, including TCEQ rules. If you would like to obtain a copy of the applicable TCEQ rules, you may contact any of the sources listed in the enclosed brochure entitled "Obtaining TCEQ Rules."

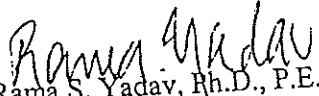
The Texas Commission on Environmental Quality appreciates your assistance in this matter. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements. We anticipate that you will resolve the alleged violations as required in order to protect the State's environment. If you have additional information that we are unaware of, you have the opportunity to contest the violation(s) documented in this notice. Should you choose to do so, you

Mr. Ricardo Saucedo, P.E.,
Safety-Kleen Corporation.
July 23, 2003

must notify the Houston Region Office within 10 days from the date of this letter. At that time, Ms. Marsha Hill, Waste Program Manager, will schedule a violation review meeting to be conducted. However, please be advised that if you decide to participate in the violation review process, the TCEQ may still require you to adhere to the compliance schedule referenced in paragraph one above until an official decision is made regarding the status of any or all of the contested violations.

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone (713)767-3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Region 12 - Houston

Enclosure: Summary of Investigation Findings
 Obtaining TCEQ Rules

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.:71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: May 29 and June 6, 2003

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS

During this investigation, the following alleged violations were documented and remain outstanding.

1. Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should maintain and utilize an appropriate SAP.

2. Compliance Plan No. CP-50236 Provision V.A.1,2, and 4. Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

3. Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

4. **Permit Provision IV.B.1 Authorized Wastes**

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

5. **Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements**

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

SUMMARY OF ALLEGED VIOLATIONS RESOLVED

During this investigation, the following alleged violation was documented and subsequently resolved after corrective action.

1. **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 16, Well Construction**

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, therefore the alleged violation is considered resolved.

SUMMARY OF OUTSTANDING AREAS OF CONCERN

During this investigation, the following areas of concern were documented and remain to be addressed.

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

4. Monitoring well RW-1 appears to still have no longer required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

5. During the current sampling event all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

6. A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

7. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

- 9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

- 10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

11W-71144-CD

CCB
JLC

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 6, 2003

CERTIFIED MAIL # 7001 2510 0007 0184 8820
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.,
Environmental, Health & Safety Manager
Safety-Kleen Corporation.
5243 Sinclair Road
San Antonio, Texas 78222

Re: Additional Compliance Documentation Needed for:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City,
(Fort Bend County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

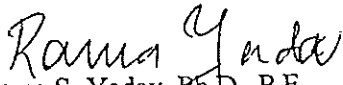
The Texas Commission on Environmental Quality (TCEQ) Houston Region Office has received the compliance documentation that you submitted August 18, 2003, for the alleged violations and areas of concern noted during the investigation of the above-referenced facility conducted on May 29, and June 6, 2003. The compliance documentation contained in your response appears to indicate that some of the problems documented during the investigation have been corrected. However, information is still needed for the alleged violations and areas of concern listed in the enclosed summary. Please submit to our office by November 26, 2003 a written description of corrective action taken and the required compliance documentation demonstrating that these remaining alleged violations and areas of concern have been resolved.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to protect the State's environment. We look forward to receiving your response for the remaining alleged violations and areas of concern. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements.

Safety-Kleen Corporation
November 6, 2003
Page -2-

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone #(713) 767-3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Region 12 - Houston

cc: Mr. Gerhard L. Risse, P.E., Senior Remedial Manager, Safety-Kleen, 4800 South Old Peachtree Road, Norcross, Ga 30071
Mr. Hal Kuntz, ATC. Associates, 3928 Bluebonnet Dr, Stafford TX 77477

Enclosure: Summary of Investigation Findings

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.: 71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: May 29 and June 6, 2003

SUMMARY OF ALLEGED VIOLATION RESOLVED

1.) Permit Provision IV.B.1 Authorized Wastes

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

- In their August 18, 2003 letter, Safety-Kleen stated that "in the future all evacuated groundwater will be placed in a compatible storage drum to be stored in the permitted container storage area . . . "

The alleged violation is considered resolved.

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS AND AREAS OF CONCERN

1.) Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

- The facility's response stated that "The facility's SAP has been adjusted to be more comprehensive and up to date. "

The SAP referenced is a one page document that does not include all the topics necessary, nor contain the level of detail necessary to be technically sufficient. The facility should prepare a technically sufficient SAP that addresses all the required aspects such as well guaging, purging, sampling, analysis, reporting, etc. The revised SAP should be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

2.) Compliance Plan No. CP-50236 Provision V.A.1,2, and 4, Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

- SK proposed the submittal of a major amendment to the Compliance Plan to increase the GWPS from non detect to the TRRP Tier-1 GW PCL. The submittal of the major modification was to occur within the "next 90 days", which would be by November 17, 2003. To date no Compliance Plan amendment has been submitted.

The facility should submit a Compliance Plan amendment that addresses the alleged violation to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

3.) **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction**

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

- SK stated that the required information would be included in the Compliance Plan Modification submitted to the agency by November 17, 2003.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan. The information should be submitted to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

4.) **Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements**

Field observations including descriptions of the appearance (Clarity, color, etc.) shall be recorded. The field data sheets do not record all required information.

- SK stated that the information has been included in the SAP and on field sampling sheets.

The facility should submit the revised field data sheet(s) to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

Summary of Outstanding Areas of Concern:

- 1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA. The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

- The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to

provide the assessments for review during this investigation.

- The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 4.) Monitoring well RW-1 appears to have components of a recovery system installed in the well bore.
- Recovery well components which are no longer required should be removed.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 5.) During the current sampling event, all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.
- EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 6.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.
- All equipment should be calibrated per EPA guidance.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 7.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.
- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.
- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

- All sampling should be conducted utilizing EPA approved methodology.

The Safety-Kleen letter of August 18, 2003 did not address this Outstanding Area of Concern. The facility should submit the required information to Mr. Todd Counter of the TCEQ Corrective Action Section, and the TCEQ Houston Region Office, for review.

ATTACHMENT 3

Safety-Kleen August 18, 2003
Draft Sample and Analysis Plan



December 24, 2003

Mr. Todd Counter
Texas Commission on Environmental Quality
Corrective Action Section, MC-127
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Sampling and Analysis Plan
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, Texas
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

Dear Mr. Counter:

This letter is intended to respond to the TCEQ letter dated November 6, 2003, which documents the need for additional compliance documentation for the above referenced site. Please find the enclosed Sampling and Analysis Plan, which addresses many of the Areas of Concern in the above referenced letter.

Safety-Kleen appreciates the TCEQ's assistance on completing this project. If you have any questions, please contact Mr. Gary Risse with Safety-Kleen at (770) 418-1860 or Mr. Hal G. Kuntz II with ATC Associates at (281) 240-0154.

Sincerely,

Gerhard L. Risse, P.E.
Senior Remedial Manager - Safety-Kleen

Enclosures

cc: Ricardo Saucedo, P.E., Safety-Kleen, San Antonio, Texas
Hal G. Kuntz II, P.G., ATC Associates, Houston, Texas
Mr. Rama S. Yadav, Ph.D., P.E., Team Leader, Waste Section, TCEQ, 5425 Polk Ave.,
Suite H, Houston, Texas 77023-1486

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GROUNDWATER SAMPLING AND ANALYSIS PLAN

Hazardous Waste Permit No. HW-50236-001
Compliance Plan No. CP-50236
Safety-Kleen Systems, Inc. – Missouri City Facility

1.0 INTRODUCTION

Safety-Kleen Systems, Inc. has established a corrective action program to monitor releases of hazardous constituents from Area AA as shown on the site map (Figure 1) of the facility at 1580 Industrial Road, Missouri City, Texas 77459. As part of the Compliance Plan, Safety-Kleen is responsible for installation, operation, and maintenance of a Groundwater Monitoring System to evaluate the effectiveness of the Corrective Action Program.

Groundwater sampling and analysis under this program will be conducted according to this Sampling and Analysis Plan and in accordance with the USEPA publication, "Test Methods for Evaluating Solid Waste, Third Edition, (SW-846)".

Copies of this Groundwater SAP will be maintained in the files at the Safety-Kleen Missouri City facility and used by personnel conducting sampling activities in the field. This SAP supersedes any previous SAP.

2.0 PRE-MOBILIZATION ACTIVITIES

2.1 Sampling Program Coordination

Prior to mobilization to the field for the sampling program, sampling personnel will review the Groundwater SAP to ensure collection of all necessary field data and conformance with the procedures described below. All necessary equipment will be procured and/or prepared for use prior to commencement of field activities.

The sampling program will be coordinated with the contract laboratory to ensure that properly prepared sample kits are available. The sample kits will include all necessary sample containers with closures and appropriate preservatives; coolers; waterproof labels; and chain-of-custody/analysis request forms.

Records of sampling events are maintained in logbooks and/or on standardized form such as the examples attached with this SAP, or other appropriate forms. Information to be recorded during the sampling event includes the following:

- Identification of sampling personnel;
- Identification of wells measured/sampled;
- Dates and times of measurement/sample collection;
- Results of static water level measurements and well soundings;
- Deficiencies in the physical condition of wells noted during well inspections;
- Purging/sampling methods and volumes;
- Results of field water quality measurements and visual inspection of samples; and
- Analyses to be performed, container types, and preservatives.

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Environmental, Geotechnical and Materials Professionals

2.2 Health and Safety Plan Review

Field personnel will review the Health and Safety Plan prior to mobilization. Based on previous experience with groundwater sampling at Safety-Kleen, modified Level D protection, consisting of coveralls, hard hat, safety glasses, and steel-toed shoes, is adequate to ensure worker protection. Latex or other chemical resistant gloves will be worn during well purging and sampling. Field personnel will also review health and safety procedures for the Safety-Kleen facility to insure that all field personnel are prepared in the event of a medical emergency.

3.0 SAMPLING EQUIPMENT AND PROCEDURES

3.1 Static Water Level Survey

During each sampling event, a static water level survey will be conducted prior to well purging and sampling. The top of each well has been surveyed to a standard elevation.

Static water levels will be measured from the top of casing using an electronic water level indicator or other suitable device in all designated wells during each sampling event. Data will be recorded in logbooks and/or on forms (see attachments). To minimize the potential for cross-contamination, wells that have historically been clean will be measured before wells with elevated constituent concentrations. The downhole measuring device will be thoroughly rinsed with distilled or deionized water between well locations.

3.2 Well Integrity Inspection

Prior to purging, wells without permanently installed pumps will be sounded to total depth to detect the presence of silt accumulation at the base of the well or other obstruction. For each monitoring well or recovery well having a permanently installed pump, the total depth will be measured when the pump is pulled for maintenance or replacement, or when the production rate of the recovery well decreases by 25% or more from the baseline production rate.

The wells will also be inspected to confirm well integrity and identify needed repairs. Well inspections will document any observed deficiencies in the condition of the well casing, cap/protective cover, surface pad, and dedicated sampling equipment, if applicable. Any noted exceptions will be recorded in the logbooks or standard forms and brought to the attention of appropriate Safety-Kleen personnel upon completion of the sampling event.

3.3 Well Purging

Purging Equipment and Method

Wells to be sampled will be purged by pumping or bailing prior to sample collection. Acceptable pumps include peristaltic and submersible electric pumps. When non-dedicated bailers or pumps are used for purging, they will be thoroughly cleaned prior to use in each well. Non-dedicated bailer cords will be changed prior to use in each well.

Non-dedicated pumps and associated cable will be cleaned by running the pump for several minutes each in: 1) a bucket of non-phosphate soap solution; 2) a bucket of deionized or distilled water; and 3) a second bucket of deionized or distilled water. The pump and cable will be submerged in the buckets during the cleaning process. The soap solution and rinse water buckets will be prepared at the beginning of each day and are replaced after four cycles of pump cleaning.



At least once per day, in which non-dedicated pumps are used, a sample will be taken from the final rinse water bucket after completion of four cycles of pump cleaning. The samples will be analyzed for the parameters listed in Table 1. As an alternative to cleaning, as described above, the tubing used in a peristaltic pump can be replaced with new, unused tubing between use in each well.

Purging of each well may be accomplished through either the common method of removing multiple well volumes until water quality indicator parameters stabilize, as described below, or "micro-purging" using similar water quality indicator parameters. Either method should employ low-flow (i.e., a flow rate that does not exceed the rate at which the well was developed) techniques to minimize stress on the aquifer. Water level drawdown provides the best indication of stress imparted by a given flow-rate for a given hydrogeological situation. If a pump is used, the intake should be placed immediately below the air/water interface.

Purge Volumes

Prior to purging, the static water level and the bottom of the well will be measured to the nearest 0.01 foot using a water level indicator. The height of the water column (i.e., total well depth – depth to water) will be used to determine the well casing storage and the minimum required purge volume. This required groundwater purge volume can be calculated as follows:

$$Q = (0.04) \times d^2 \times (TD - DTW)$$

Where:

Q = required three casing volume flush (gallons)

d = diameter of the well casing (inches)

TD = total depth of well measured from top of well casing (feet)

DTW = depth to water measured from top of well casing (feet)

A well casing volume is defined as the height of the water column times the cross-sectional area of the well casing (i.e., for a 2-inch well, the casing volume in gallons is equal to the height of the water column, in feet, times 0.16; for a 4-inch well, the volume in gallons is equal to the height of the water column, in feet, times 0.65).

A minimum of three well casing volumes will be purged from the well, unless the well is effectively emptied by removal of less. The effectiveness of the purge will be verified by measurement of pH and specific conductance of the discharge stream. Any instrumentation used for measurement will be calibrated on the day it is to be used in the field. The well will be considered effectively purged when the consecutive measurements yield specific conductance and pH readings that vary by 10% or less. Wells that are emptied prior to removal of three casing volumes may be sampled upon recharge adequate to yield the required sample volumes.

Management of Purge Water

Purge water will be collected in a translucent tank or dedicated drums. The total volume of purge water will be measured. The water will be managed onsite, or transported to an approved off-site facility for treatment and/or disposal.



3.4 Groundwater Sample Collection

Timing of Sampling

The corrective action monitoring program will be conducted on a semiannual basis. Semi-annual reports will be submitted to the TCEQ to document monitoring program results.

Sampling Order of Wells and Timing of Sample Collection

To minimize potential for cross-contamination, wells included in the sampling program that have historically been clean will be sampled before wells previously showing elevated constituent concentrations. Sampling will be conducted as soon as practicable following purging. In the event that a well has been purged, but cannot be sampled on the same day, the well may be sampled within 24 hours following completion of purging without additional purging.

Sampling Equipment

Monitoring well will be sampled using either dedicated or non-dedicated equipment. Acceptable sampling devices include a syringe sampler (bailer) or the following submersible pumps: gear drive, bladder, helical rotor, piston (gas-driven), and centrifugal (low-rate). Equipment made from inert, non-reactive materials such as Teflon, stainless steel, Tygon, or other suitable materials will be used. If non-dedicated equipment is used, the equipment will be thoroughly cleaned as described above prior to use in each well, or will be replaced with new equipment.

Groundwater Sample Handling

Groundwater samples will be collected and handled in such a way so to minimize the potential for cross-contamination, loss of volatile constituents, or other interferences. Sampling personnel will wear clean latex, nitrile, or other suitable chemical resistant, non-reactive gloves when handling sampling equipment and containers, and will minimize contact with the sampled groundwater. Care will be taken to prevent contact of the downhole sampling equipment such as pumps, bailers, and cords, with the ground or other potential sources of sample contamination. Gloves will be changed between sampling locations.

Groundwater samples will be collected using techniques appropriate for the analytes to be tested. If pumps are used to collect samples for VOCs, the sampling flowrate will be regulated so the samples are collected at relatively low flow rates (approximately 100 ml/min). When bailers are used for sample collection, they will be lowered into the well slowly and poured carefully to minimize agitation. Samples for analysis of volatile compounds will not be collected using techniques that could excessively aerate the samples.

Collected samples will be retained in coolers pending transport to the laboratory with adequate ice to maintain samples at a temperature of approximately 4° C until received by the laboratory.

Sample Appearance and Field Parameter Analysis

A sample will be collected at each location for field analysis of temperature, specific conductance, pH, turbidity, dissolved oxygen, and oxidation-reduction potential (ORP). Equipment used to measure these parameters will be calibrated beforehand on the day of sampling. Equipment out of calibration by 10% or more will not be used for field measurements. Laboratory measurements of specific conductance and/or pH made within 24 hours of sample



collection may augment or replace field measurements, in the event of field instrument malfunction or other factors.

The color, turbidity, and odor of each sample along with the field analysis parameters will be noted by the field technician and recorded in a logbook or on a field sample form (see attachments). Purge volume information, field parameter test results, and other sample information will also be recorded in a logbook and/or on a form.

Sample Containers, Preservatives, and Labels

Samples will be collected in clean, method-specified containers, with appropriate preservatives, supplied by the laboratory. The appropriate sample container and preservative for each analysis are specified on Table 2. Prior to use, sample containers will be stored, with lids secured, in a clean cooler or box.

Once a sample is collected, the sample container will be secured with a tight-fitting lid and a waterproof adhesive label affixed. The label will include sample identification, time and date of collection, sampler's initials, and other pertinent information, as appropriate. The sample containers will be retained in a cooler at or below 4 degrees Celsius as described above pending transport to the laboratory.

Sample Custody Control, and Shipment and Receipt of Samples

Sampling personnel will be responsible for the care of collected samples until custody has been transferred to the laboratory, courier, or shipping department. Sample custodians will assure that the sample containers are in the custodians' physical possession, in view at all times, or stored in a secure area to prevent tampering.

After sample collection, the chain-of-custody forms will be filled out in ink, in legible writing, listing all sample containers and will accompany the samples throughout all phases of shipment and handling (see attached example chain-of-custody form). Samples will be packed on sufficient ice to achieve a temperature of 4 degrees Celsius and sealed prior to shipment. To the extent practical, samples will be submitted to the laboratory within 24 hour of sample collection. If samples are delivered to the laboratory by a third party courier, a custody seal will be affixed to the cooler such that the cooler cannot be opened without breaking the seal.

Upon delivery of samples to the laboratory or courier, the sampler will retain a copy of the chain-of-custody form, signed by the sampler and/or laboratory personnel indicating the date and time the samples were relinquished and received. A copy of the chain-of-custody form showing all signatures from the sampler to the laboratory will be incorporated in the corrective action monitoring program records.

3.5 Collection of Quality Control Field Samples

For the purpose of the field sample Quality Control (QC) program, two laboratory-prepared Trip Blanks per sampling event will be submitted for analysis of volatile organic compounds. One Field Blank will be collected per day of sampling for analysis of the parameters listed on Table 1. Duplicate Samples will be collected from selected wells at a frequency of one Duplicate Sample for every ten groundwater samples collected per sampling event. The Duplicate Samples will be submitted for analysis of the parameters listed on Table 1.



4.0 ANALYTICAL LABORATORY PROCEDURES

Upon receipt, the laboratory will measure the internal temperature of each sample cooler. The samples will then be logged in and maintained at the appropriate temperature pending extraction and/or analysis within the method-specified holding times. In the event of sample container breakage or other problems with the sample shipment, the laboratory will contact the sampling contractor immediately.

Groundwater samples will be analyzed in accordance with EPA-specified protocol or other approved methods. Table 1 lists the compounds to be analyzed during the corrective action monitoring program. Table 2 lists the analytical methods, containers, preservatives, and holding times for the groundwater monitoring parameters.

4.1 Laboratory Methods and Sample Containers

Laboratory methods for analysis of various groundwater constituents and the appropriate sample containers and preservation methods are specified on Table 2. All laboratory analyses will be performed in accordance with the QA/QC protocol specified in USEPA publications "Test Methods for Evaluating Solid Waste", SW-846, 1996; "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-20, 1983; or other appropriate methods. Minimum laboratory QA/QC requirements are outlined below.

4.2 Data Reduction, Validation, and Management

Data Reduction

Calculations and data reduction will be completed by laboratory personnel in accordance with procedures specified by USEPA in "Test Methods for Evaluating Solid Waste", SW-846, 1996; "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020, 1983; or other appropriate methods. Procedures, units, and equations used in data reduction will be consistent with the analysis method.

Data Validation

The contracted laboratory will verify that the data are properly documented and filed according to chain-of-custody records, and that calculations made from raw data are correct. Results from calibration standards will be examined to ensure they are within expected ranges. Blank, duplicate, spike, standard, and QC data for each batch will be examined to ensure conformance with specified QA/QC goals.

Data Management

The sampling contractor will be responsible for tabulation, management, and statistical analysis of analytical data received from the laboratory.

4.3 Laboratory Quality Control Analyses

To monitor system performance, control samples, including blanks, duplicates, spike duplicates, analytical standards, and reference materials, will be incorporated in the operation of the laboratory facility. The laboratory selected to complete the specified analyses must submit



laboratory QC data consistent with the provisions specified in this SAP. Minimum QC sampling and testing requirements follow.

Matrix Spikes

Matrix spike samples will be run at a frequency of one per sample batch, one per every 20 samples analyzed, or consistent with EPA guidance. The results from these analyses will be compared to the control limits established for precision and bias to assess whether or not the analysis is in statistical control.

Method Blanks

To monitor potential contamination in the laboratory, method blanks will be run at the frequency of one every 20 samples, or a minimum of one per sample batch, or as specified in EPA guidance. For organic analyses, blank results will be acceptable if the concentration of the target analytes in the blank are below the practical quantitation limit for each analyte. In accordance with EPA guidance (USEPA, 1988), exceptions will be made for common laboratory contaminants (methylene chloride, acetone, 2-butanone, toluene, and phthalate esters may be present at concentrations up to five times the method-specified practical quantitation limit) and the results for the blank will still be acceptable.

Matrix Spike Duplicates

Analysis of a matrix spike duplicate will be used to determine matrix-specific precision. A matrix duplicate or matrix spike duplicate will be run at the frequency of one in 20, or a minimum of one per sample batch, or as specified in EPA guidance.

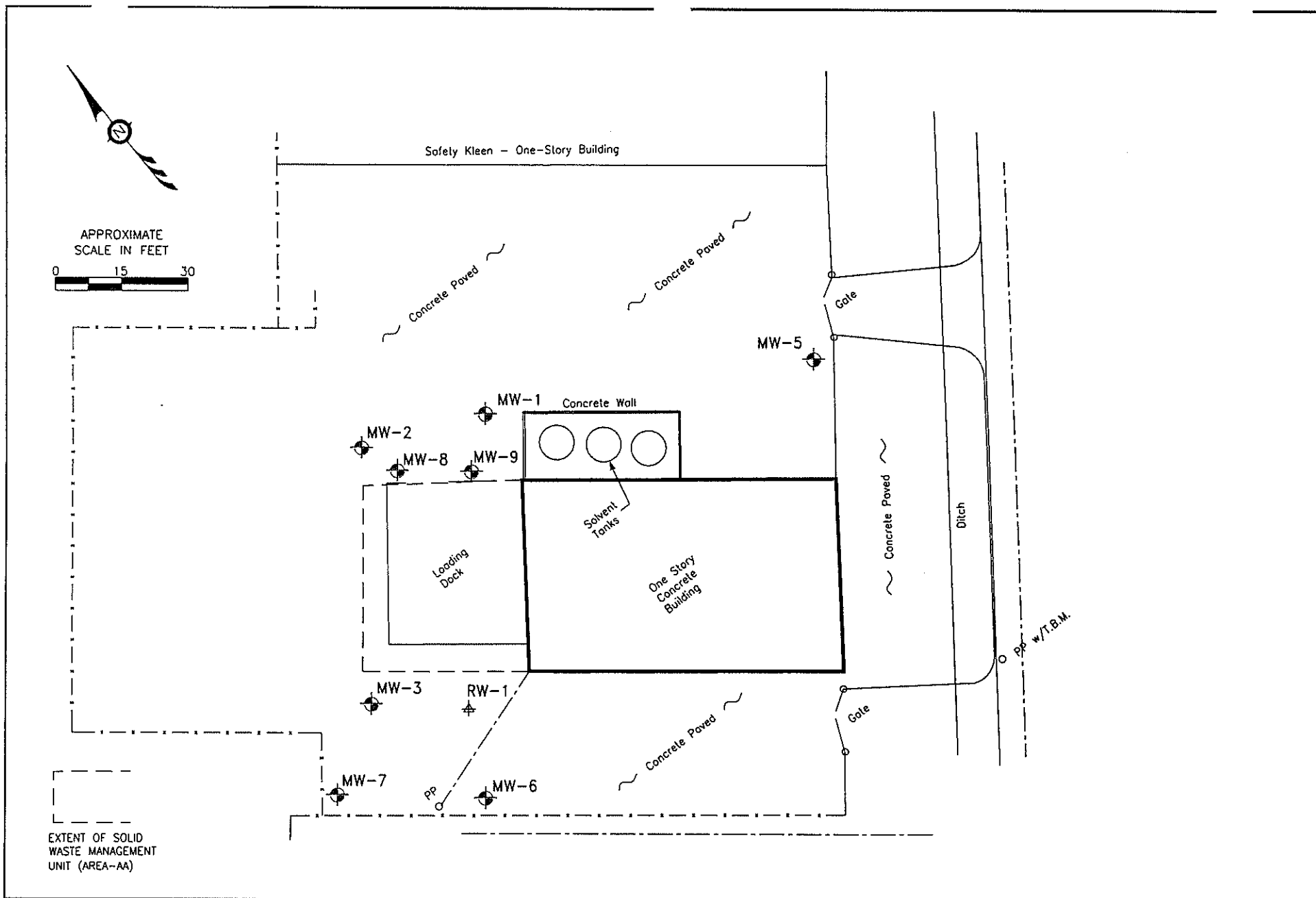
4.4 Preventive Maintenance

Routine maintenance of instrumentation will be performed per manufacturer's recommendations according to standard operating procedures for each piece of equipment. Qualified instrument technicians will be consulted as required for repair, maintenance, or advice. The laboratory Quality Assurance Project Plan (QAPP) will include maintenance procedures for laboratory instrumentation.

4.5 Data Assessment Procedures and Corrective Action

Procedures for evaluating the precision, accuracy, representativeness, and comparability of laboratory test results are detailed in the EPA publications "Test Methods for Evaluating Solid Waste" and "Methods of Chemical Analysis of Water and Wastes". As an indicator of statistical control, precision and bias will be estimated by tracking spike recoveries and standard deviations of replicates. Corrective action will be taken when QC data are outside acceptable precision and accuracy values, blank concentrations exceed acceptable limits, or unanticipated changes in method detection limits are encountered. Corrective action may include recalibration of instruments with freshly prepared standards, replacement of solvents or reagents giving high blank values, additional training, or other appropriate measures.





SAFETY KLEEN
 1580 INDUSTRIAL DRIVE
 MISSOURI CITY, TEXAS
 ATC Project No. : 73.75115.0005
 July 2003



Figure 1
 SITE MAP

TABLE 1
ANALYTICAL PARAMETERS
Safety-Kleen Systems, Inc. – Missouri City

1a – Detected Hazardous and Solid Waste Constituents (Table II – Corrective Action Program)

Benzene
Chlorobenzene
1,1-Dichloroethane
1,2-Dichloroethene (total)
Ethyl benzene
Methyl Ether Ketone (MEK) (2-butanone)
Methyl Isobutyl Ketone (MIBK) (hexone, isopropyl acetone, 4-methyl 2-pentanone)
Tetrachloroethene
Trichloroethene
Toluene
Xylene (total)
Vinyl chloride
Cadmium
Lead

1b – Indicator Parameters (Table III – Corrective Action Program)

Chlorobenzene
Xylenes (total)
Nitrate Nitrogen (N)¹
Sulfate (SO₄)¹

¹ Natural attenuation parameters



TABLE 2

ANALYTICAL METHODS, CONTAINERS, PRESERVATIVES AND HOLDING TIMES
 Safety-Kleen Systems, Inc. – Missouri City

Constituent	Analytical Method Numbers	Sample Container and Preservative	Maximum Holding Time
<i>Volatile Organic Compounds</i>			
Benzene Chlorobenzene 1,1-Dichloroethane 1,2-Dichloroethene (total) Ethyl benzene Methyl Ether Ketone (MEK) Methyl Isobutyl Ketone (MIBK) Tetrachloroethene Trichloroethene Toluene Xylene (total) Vinyl chloride	EPA 8260B	(3) 40 ml glass vials, headspace free / HCl (pH<2), cool to 4°C	14 days
<i>Metals</i>			
Cadmium Lead	EPA 6010B	8 oz. Polyethylene or glass / HNO ₃ (pH<2), cool to 4°C	6 months
<i>Inorganic Anions</i>			
Nitrate Nitrogen (N)	EPA 9056	8 oz. Polyethylene or glass / cool to 4°C	48 hours
Sulfate (SO ₄)	EPA 9056	8 oz. Polyethylene or glass / cool to 4°C	28 days



Site Name:											
Site No.:						Sample Point:					
					Sample ID						

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: _____

PURGE INFO	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
	PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLS PURGED

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT	Purging and Sampling Equipment ... Dedicated:		<input type="checkbox"/> Y	or	<input type="checkbox"/> N	Filter Device:	<input type="checkbox"/> Y	or	<input type="checkbox"/> N	<input type="text" value="0.45"/> μ	or	<input type="text" value=""/> μ	(circle or fill in)
	Purging Device	<input type="text" value=""/>	A- Submersible Pump	D-Bailer						A-In-line Disposable	C-Vacuum		
			B-Peristaltic Pump	E-Piston Pump			Filter Type:	<input type="text" value=""/>			B-Pressure	X-Other	<input type="text" value=""/>
	Sampling Device	<input type="text" value=""/>	C-QED Bladder Pump	F-Dipper/Bottle									
	X-Other:	<input type="text" value=""/>				Sample Tube Type:	<input type="text" value=""/>			A-Teflon	C-PVC	X-Other:	<input type="text" value=""/>
										B-Stainless Steel	D-Polypropylene		

WELL DATA																
Well Elevation (at TOC)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	(ft/msl)	Depth to Water (DTW) (from TOC)	<input type="text"/>	<input type="text"/>	<input type="text"/>	(ft)	Groundwater Elevation (site datum, from TOC)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	(ft/msl)
Total Well Depth (from TOC)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	(ft)	Stick Up (from ground elevation)	<input type="text"/>	<input type="text"/>	<input type="text"/>	(ft)	Casing ID	<input type="text"/>	(in)	Casing Material	<input type="text"/>	

Note: Total Well Depth, Stick Up, Casing Id, etc are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

	Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
N DATA (Optional)		1 st	1 st	1 st					
		2 nd	2 nd	2 nd					
		3 rd	3 rd	3 rd					
		4 th	4 th	4 th					
STABILIZE									
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize	

FIELD DATA	Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.									
	SAMPLE DATE	pH	CONDUCTANCE	TEMP.	TURBIDITY	DO	eH/ORP	Other:		
	(MM DD YY)	(std)	(umhos/cm @ 25°C)	(°C)	(ntu)	(mg/L-ppm)	(mV)	Units		

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site).

Sample Appearance: _____ Odor: _____ Color: _____ Other: _____
Weather Conditions (required daily, or as conditions change): _____ Direction/Speed: _____ Outlook: _____ Precipitation: Y or N
Specific Comments (including purge/well volume calculations if required): _____

FIELD COMMENTS	

certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

_____/_____/_____
_____/_____/_____
Date Name Signature Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

5109



ANALYTICAL SERVICES, INC.
 ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
 110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
 (770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

CHAIN OF CUSTODY RECORD

CLIENT NAME: <u>ATC Associates Inc</u>					ANALYSIS REQUESTED										L A B I D N U M B E R ↓	CONTAINER TYPE		PRESERVATION																																				
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER: <u>3928 Bluebonnet</u> <u>Stafford, TX 77477</u> <u>281-240-0154 / FAX 281-240-8909</u>					CONTAINER TYPE		V		P											P - PLASTIC		1 - HCl, 4°																																
REPORT TO: <u>Mr. Project Manager</u>					PRESERVATION		1		7											A - AMBER GLASS		2 - H2SO4, 4°																																
REQUESTED COMPLETION DATE:																				G - CLEAR GLASS		3 - HNO3, 4°																																
PROJECT NAME/STATE: <u>SK - Missouri City, TX</u>					# of														V - VOA VIAL		4 - NaOH, 4°																																	
PROJECT #: <u>73.75115.0005</u>					CONTAINERS														S - STERILE		5 - NaOH/ZnAc, 4°																																	
DATE					TIME					MATRIX CODE*					C O M P G R A B					SAMPLE IDENTIFICATION																																		
1/1/01					0900					GW										X					MW-1					4					X					X														
1/1/01					0930					GW										X					MW-2					4					X					X														
1/1/01					0930					GW										X					Duplicate					4					X					X														
1/1/01					1000					W										X					Field Blank					4					X					X														
1/1/01					1015					W										X					Equipment Blank					4					X					X														
										W										X					Trip Blank					2					X																			
SAMPLED BY AND TITLE: <u>Joe Sampler / Technician</u>					DATE/TIME: <u>1/1/01 / 1115</u>					RELINQUISHED BY: <u>Joe Sampler / Technician</u>					DATE/TIME: <u>1/1/01 / 1115</u>					FOR LAB USE ONLY																																		
RECEIVED BY:					DATE/TIME:					RELINQUISHED BY:					DATE/TIME:					LAB #:																																		
RECEIVED BY LAB:					DATE/TIME:					SAMPLE SHIPPED VIA:					UPS FED-EX					COURIER					CLIENT					OTHER:					In-house location:																			
pH:					Labeled Preserved					Ice: Yes or No					Temperature:					Custody Seal:					Intact					Broken					Missing					Cooler #					Entered Into LIMS:									

Please use Black Ink to complete form.

CHAIN OF CUSTODY RECORD

ASI

ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: OF

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Please use Black Ink to complete form.

ATTACHMENT 4

December 5, 2003 TCEQ Request for Additional Information

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 5, 2003

CCB copy

Mr. Gerhard L. Risse, P.E.
Safety-Kleen Systems, Inc.
4800 South Old Peachtree Road
Norcross, GA 30071

CERTIFIED MAIL #4761
RETURN RECEIPT REQUESTED

RE: Request for Additional Information
First Semi-Annual Groundwater Monitoring Report, dated August 7, 2003
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. 50236
EPA ID No. TXD010803203

RECEIVED

DEC 09 2003

REGION 12

Dear Mr. Risse:

The Texas Commission on Environmental Quality (TCEQ) Corrective Action Section (CAS) has reviewed the above referenced report. Based on our review, the report does not fulfill the reporting requirements of Provision VII of the Compliance Plan referenced above. Discussed below, the TCEQ is requesting additional information. Following facility inspections on May 29 and June 6, 2003, TCEQ Region 12 provided Safety-Kleen with a letter dated November 6, 2003 requesting additional compliance information for areas of concern at the subject facility. In a response letter dated November 26, 2003, Safety-Kleen provided TCEQ Region 12 with some additional information to address these concerns and proposes to submit by March 2004, a Compliance Plan Major Amendment in order to increase groundwater protection standard from non-detect to 30 Texas Administrative Code (TAC) Chapter 350 (TRRP) Tier 1 Protective Concentration Levels (PCLs). The information requested below by TCEQ CAS references some comments from the TCEQ Region 12 letter and acknowledges planned future assessment activities detailed in the Safety-Kleen letter November 26, 2003.

Sampling and Analysis Plan (SAP)

In accordance with Provision No. 3 of the above referenced compliance plan, Safety-Kleen must submit a updated and accurate sampling and analysis plan (SAP) (see Alleged Violation Comment No. 1). In addition, the SAP must include all analyses of all natural attenuation parameters needed to fulfill the requirements of Provision 3 (MNA Performance Reporting). Per Provision VI.B.1, the revised SAP will be incorporated into the Compliance Plan at the beginning of the first quarter following TCEQ approval.

Site COC Extent Delineation

The lateral extent of contaminated groundwater for chlorobenzene is unknown beyond MW-2 to the north and northeast, and MW-3 to the north and northwest. In accordance with the Response and Reporting Requirements, Provision VII.A.2, the Permittee must initiate an investigation to determine the extent of contamination based on Practical Quantitation Limits (PQL)s. In the letter dated November 26, 2003,

Mr. Gary Risse, P.E.

SWR No. 71144

Page 2

December 5, 2003

Safety-Kleen states that new monitor wells will be installed to fully delineate the indicator parameters listed in Table III of the Compliance Plan to the analytical PQL and sampled in accordance with the approved SAP. Please ensure that all wells are installed in accordance with Attachment B of the Compliance Plan.

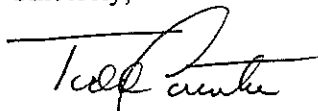
Groundwater Gradient

The groundwater direction and gradient is in question for the site. Identified in Table 1 of the subject report, recent surveys conducted at all monitor wells (top of casing) indicates a historic variance in elevation from 0.03 to 0.89 feet. Safety-Kleen must reevaluate the groundwater elevation and gradient for the site and provide an accurate potentiometric surface map of site groundwater as required per Provision VII.C.1.b. of the Compliance Plan.

In accordance with Provision VII.C.2.t. of the Compliance Plan, to clarify and ensure that all water-bearing zones are identified at the site, please provide transect longitudinal and latitudinal hydrogeologic cross sections utilizing all existing and any new boring soil logs. All monitor well locations, screened intervals and associated geologic boring information, current well survey, and static water levels as compared to Mean Sea Level (MSL) must be included in the cross section information.

To ensure accurate site information is included with future facility documents, please submit the information requested above within 60 days from the date of this letter for review and approval prior to submittal of any application materials. An original and one copy of future reports must be submitted to the TCEQ at the letterhead address using mail code number MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location, and identification number(s) in the TCEQ reference line above should be included with the report. Please use Mail Code 127 (MC-127) when responding by mail. Any issues regarding Safety-Kleen's Permit Renewal dated May 5, 2003 should be directed to Mr. Govi Darsi at (512) 239-6606, (Mail Code MC-130).

Sincerely,



C. Todd Counter, Project Manager
Team II, Corrective Action Section
Remediation Division

CTC/ctc

cc: Waste Program Manager, TCEQ Region 12 Office, Houston
Mr. Govi Darsi, I&HW Permits Section, TCEQ Waste Permits Division - Austin

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 7, 2004

Mr. Gerhard L. Risse, P.E.
Safety-Kleen Systems, Inc.
4800 South Old Peachtree Road
Norcross, GA 30071

RE: Request for Additional Information
Sampling and Analysis Plan, dated December 24, 2003
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, TX
TCEQ SWR No. 71144
TCEQ Compliance Plan No. 50236
EPA ID No. TXD010803203

Dear Mr. Risse:

The Texas Commission on Environmental Quality (TCEQ) Corrective Action Section (CAS) has reviewed the above referenced plan. The subject plan was submitted in response to the TCEQ letter dated December 5, 2003 requesting additional information relating to the First Semi-Annual Groundwater Monitoring Report, dated August 7, 2003. Specifically, the letter requested an updated Sampling and Analysis Plan (SAP) and Constituents of Concern (COCs) extent delineation information for the subject facility. The subject SAP was submitted as requested. *However, to date TCEQ has not received the requested COC extent information.* At this time TCEQ can not approve the subject SAP without the additional information requested below. To ensure accurate site information is included with future facility documents, please submit the revised SAP, and the COC extent information requested in the December 5, 2004 letter within 60 days from the date of this letter. This information must be reviewed and approved by TCEQ prior to submittal of any Compliance Plan Major Amendment application for the facility. If additional investigation or monitoring data is necessary before preparing a response, please include a full discussion of the factors involved and projected path forward.

The subject Sampling and Analysis Plan was submitted in accordance with Provision VI. B. 1. of the above referenced compliance plan. In addition, the SAP must establish administrative and technical processes to apply Monitored Natural Attenuation (MNA). The SAP must include analyses of sufficient natural attenuation geochemical parameters to fulfill the requirements of Provision VII. C. 3. (MNA Performance Reporting). The only MNA parameters proposed to be sampled in the subject plan are Nitrate, Nitrogen and Sulfate. In order to assess the effectiveness of MNA, adequate geochemistry data should be collected. Specifically, since the COCs at the subject site are chlorinated hydrocarbons it may be necessary to collect data for potential competing electron acceptors (dissolved oxygen, nitrate, sulfate), indirect indicators of competing electron acceptors (ferrous iron and methane), potential fermentation substrates (Total Organic Carbon), chlorides, alkalinity and dechlorination end products, such as ethane and ethene. Please refer to TCEQ Regulatory Guidance Document RG-366/TRRP-33, Monitored Natural Attenuation Demonstrations

Mr. Gerhard L. Risse, P.E.

SWR No. 71144

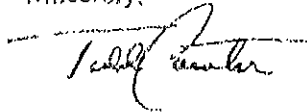
Page 2

April 7, 2004

for guidance with demonstrating the effectiveness of monitored natural attenuation. Also, please refer to Environmental Protection Agency (EPA) guidance document EPA/600/R-98/128, Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater. Per Provision VI.B.1, the revised SAP will be incorporated into the Compliance Plan at the beginning of the first quarter following TCEQ approval.

An original and one copy of future reports must be submitted to the TCEQ at the letterhead address using mail code number MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location, and identification number(s) in the TCEQ reference line above should be included with the report. Questions concerning this letter should be directed to me at (512) 239-2591. Any issues regarding Safety-Kleen's Permit Renewal dated May 5, 2003 should be directed to Mr. Govi Darsi at (512) 239-6606, (Mail Code MC-130).

Sincerely,



C. Todd Counter, Project Manager
Team II, Corrective Action Section
Remediation Division
Texas Commission on Environmental Quality

CTC/etc

cc: Waste Program Manager, TCEQ Region 12 Office, Houston
Mr. Govi Darsi, I&IIW Permits Section, TCEQ Waste Permits Division, MC130

ATTACHMENT 5

Exception / 180 day Deadline Extension



Protecting Texas
by Reducing and
Preventing Pollution

INTEROFFICE MEMORANDUM

DATE: December 11, 2003

TO: Don Thompson,
Regional Director, Region 12 - Houston

THROUGH *MMH* Marsha Hill,
Waste Program Manager Region 12 - Houston
WY Rama Yadav,
Leader, Solid Waste Section Region 12 - Houston

FROM *CCB* Charles Burner,
IHW Investigator Region 12 - Houston

SUBJECT: Enforcement Exception / 180 day Deadline Extension Request, Safety-
Kleen Systems, Inc., Missouri City Facility,
TCEQ ID No.: 71144, TCEQ Permit No.: 50236, EPA ID No.: TXD010803203

On May 29 and June 6, 2003 a Comprehensive Ground-Water Evaluation Investigation (CME) was conducted at the referenced facility. On July 23, 2003, a Notice of Violation letter was mailed to the facility which documented six alleged violations and ten areas of concern. To date one outstanding alleged violation has been resolved. The outstanding alleged violations and areas of concern address deficiencies in the groundwater monitoring well system and monitoring well sampling procedures for which approval of a major amendment to the Compliance Plan is required. An extension until June 11, 2004 is requested to allow the facility time to install additional delineation wells, conduct a groundwater monitoring event, and use the obtained information to prepare the major amendment for submittal to the Permit and Corrective Action Section.

✓ Recommend Approval

_____ Deny Approval

Don Thompson
Signature

1/28/04
Date

Safety - Kleen

From: Jayme Sadlier
To: Hill, Marsha; Main, Bill
Date: 1/20/04 3:16PM
Subject: Re: Yet Another EIC Variance Request

Marsha, you have our recommendation to grant the extension of time. With long term projects, we've received feedback that monthly or quarterly updates keep the REs working diligently. Plus, this keeps the y'all up to date on their good faith efforts. Thanks, JS

>>> Marsha Hill 01/15/04 04:08PM >>>
Bill and Jayme,

Attached is an EIC variance request. It is actually a request to extend the 180 day deadline. A Compliance Plan amendment is required to resolve the violations. In order to apply for the amendment, the regulated entity must undertake additional assessment and sampling activities. This takes time.

Please contact me if you need any additional information. Thanks.

Marsha

CC: Bealle, Nicole; Burner, Charles; Yadav, Rama

HW 71144/115

Texas Commission on Environmental Quality**Investigation Report
Safety-Kleen Systems, Inc.
Missouri City Facility (SK)****TCEQ ID # 71144, EPA ID # TXD010803203, Permit #50236
IHW-Comprehensive Ground-Water Monitoring Evaluation (CME)
Investigation; Conducted on May 29 and June 6, 2003
RN100717677, CN600128128, Investigation #112845****I. INTRODUCTION**

On May 29 and June 6, 2003, Charles Burner, Environmental Investigator of the Texas Commission on Environmental Quality (TCEQ) Region 12 Office conducted a Comprehensive Ground-Water Monitoring Evaluation (CME) at Safety-Kleen Systems Inc., Missouri City Facility (SK). Initial notification of the investigation was made to Mr. Gary Risse, Safety-Kleen Environmental Manager, on November 7, 2002. During the investigation, the facility was represented by the contractors, Mr. Thomas Forbes, Project Technical Manager, and Mr. James D. White, CAD Operator, Environmental Technician, with ATC Associates Inc. An exit interview was conducted at the end of the investigation with the facility representatives, and on June 6, 2003 with Mr. Ricardo Saucedo, P.E., Environmental, Health & Safety Manager, Safety-Kleen Corporation. The exit interviews included discussion of alleged noncompliances and the required corrective actions.

SK is located at 1580 Industrial Boulevard in Missouri City, Fort Bend County, Texas. The business occupies a two-acre tract. The location is in drainage area of Stream Segment 1102 of the San Jacinto-Brazos Coastal Basin. Land use in the area is mixed industrial, commercial and residential. The facility has been in operation at the location since 1975.

Safety-Kleen is a commercial storage and handling facility which provides spent solvent recycling services, and waste management services to primarily small businesses. The facility operates under the authorization of TCEQ Permit No. HW-50236, issued on October 9, 1991, and renewed on May 5, 2003. SK was also issued a compliance plan for two former underground storage tanks (USTs), and four wet dumpsters which for the Compliance Plan were combined to form Unit AA, **See Attachment 1**. In August 1987, Unit AA was closed. During closure, affected soils were noted. Analysis of the affected soils confirmed a release of mineral spirits. In February 1989, a hydrological assessment confirmed dissolved phase hydrocarbons in the groundwater. Pursuant to Provision VIII of the Permit, SK was required to conduct a RCRA Facility Investigation (RFI) of Unit AA. In lieu of conducting an RFI, SK submitted a Compliance Plan application in January 1992. The plan was approved by the agency in January 1994.

II. GROUNDWATER MONITORING SYSTEMS

Section II of the Compliance Plan authorized SK to install and operate a corrective action system to address the groundwater contamination. The system was installed and groundwater recovery initiated in May 1994. The system consisted of seven (7) wells; one recovery well (RW-1), one background well (MW-6), two point of compliance wells (POC) MW-8, and MW-9, and three corrective action observation (CAO) wells MW-2, MW-3, MW-4. Two additional wells MW-5, and MW-7 located at the facility were used only for water level measurements. The groundwater

WST IHW/ INSPECTION REPORTS

1st: 71144 2nd: Vol: 001

5/29/2003

BBC: 66133829

IBC: 100324333



Safety-Kleen

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recovery and treatment system included a submersible recovery pump, a flow-through settling tank and a dual-canister activated carbon treatment filter. The pump and treat groundwater remediation system was shut down on September 30, 1998, after the agency approved a Compliance Plan major amendment by a letter to the facility on August 31, 1998. The amendment authorized

monitored natural attenuation to address the groundwater contamination at the facility, See **Attachment 9**. With the issuance of the Compliance Plan Renewal on March 5, 2003, the monitoring well system detailed in Table IV of the Compliance Plan consisted of three (3) point of compliance wells (RW-1, MW-8, MW-9), and one background well, MW-7.

During the CME conducted on December 11, 1996, and January 3, 1997 two wells were noted to lack well markings. The wells were remarked, and all the monitoring wells were resurveyed in January 1997. During the current investigation at the facility, one well was documented with no well measurement points marked on the casing (MW-1). The well was remarked during the investigation, and all the monitoring wells resurveyed on June 24, 2003. Well elevations were noted to vary up to 0.89 feet (MW-3) from the 1997 to the 2003 survey. The 1997 and 2003 survey results are included in **Attachment 3**.

III. REGIONAL HYDROLOGY AND GEOLOGY

The major aquifers of the upper Coastal Plain of Texas are the Chicot Aquifer (Pleistocene) and the Evangeline Aquifer (Pliocene), together referred to as the Gulf Coast Aquifer. The Chicot comprises the following stratigraphic units (in order of increasing age): Holocene alluvium and marginal bay deposits, the Beaumont Formation, Lissie Formation, and Willis Sand. The Evangeline Aquifer consists of the Goliad Sand stratigraphic unit. From the Quaternary outcrop in northwest Houston, the Chicot thickens from approximately 200 ft. to 1200 ft. at the present day coastline. The Evangeline outcrops in central Montgomery County at a thickness of approximately 400 ft. and thickens to 2400 ft. near the coastline at a depth of 1200 ft. below sea level. Because a distinct regional aquitard is not always discernable between the two aquifers, delineation between the Chicot and Evangeline is based on the occurrence of a higher sand-clay ratio in the Chicot than the Evangeline, differences in hydraulic conductivities, or differences in water levels.

The Chicot is the major source of fresh water in Galveston and southern Harris Counties and the Evangeline is the primary producer of fresh water in the Houston district; both are confined aquifers. Heavy pumping caused large declines in the elevations of the potentiometric surfaces of both aquifers, creating a large cone of depression in the eastern Houston area. However, the principal source of water for industries along the Houston and Texas City Ship Channels has switched from ground water to surface water resulting in recovering water levels in the Chicot and Evangeline Aquifers. The Beaumont Clay of the upper Chicot acts as a hydraulic barrier between the artesian aquifers and the surficial water table.

The Evangeline consists of alternating clay and gravel and yields potable water to a depth of about 1700 feet. The Evangeline is overlain by the Chicot which is about 600 feet at the site. The Chicot contains alternating beds of clay, silt, and sand. Water wells within the City of Pasadena over a 36-year period ending in 1991 showed the highest levels for the two aquifers at 148 feet below ground level in 1989 for a Chicot well, and 233 feet below ground level in 1990 for and Evangeline well. The most transmissive portions of the Chicot are below 280 feet at the site.

The Coastal Plain of Texas encompasses a 200 to 250 mile wide band paralleling the present-day

Safety-Kleen

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coastline of the Gulf of Mexico. Cenozoic sediments were deposited along this band to form a gulfward thickening wedge of gravel, sand, silt, and clay facies tens of thousands of feet thick at the coast. Holocene, Pleistocene, and Pliocene deposits crop out across the upper Texas Coastal Plain with the older Pliocene strata exposed furthest from and dipping toward the present day Gulf. The Pliocene strata is overlain by younger Pleistocene units and Holocene alluvium resulting in progressively younger bands of sediment toward the gulf. These sediments were deposited by fluvial to fluvial-deltaic processes, prograding to nearshore marine deposition toward the gulf. The variability of depositional environments combined with growth faulting and subsidence, common to the Gulf Coast, results in stratigraphically heterogeneous strata. **See Attachment 2, for Regional Cross Section.** The regional topography is relatively flat, and slopes gently to the east in the area of the facility with an approximate surface gradient of 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou.

Formation(s) - (Youngest to Oldest)

The facility is situated on an outcrop of the Pleistocene Beaumont Formation which at the site is comprised of clays, clayey sands and silts of low to moderate permeability.

The outcrop of the Beaumont Formation of the uppermost Pleistocene Series extends from approximately Little York Road in northwest Houston to Galveston Bay and averages 100 feet in thickness (Geologic Atlas of Texas, Houston Sheet). Across much of the area Beaumont deposits are clayey sand and silt of moderate permeability and drainage, low to moderate compressibility and shrink-swell potential, and high shear strength; clay and mud of low permeability and poor drainage, high water-retention capacity, high compressibility, high to very high shrink-swell potential, low shear strength, and high plasticity. The surface features are low to depressed relief and poor drainage. The fine-grained sediments were deposited in interdistributary, abandoned channel-fill, and overbank fluvial environments. Sand and silt sediments were deposited in meanderbelt, levee, crevasse splay, and distributary sand settings.

The Lissie Formation is Pleistocene in age and has been divided into the Upper Lissie and Lower Lissie, corresponding to the Montgomery and Bentley Formations, respectively. The lower unit is approximately 1000 feet thick at the outcrop in northern Harris County and consists of clay, silt, sand, and minor amounts of gravel. The upper unit differs from the lower one, in that the upper is locally calcareous with concretions of calcium carbonate, iron oxide, and manganese oxide. The Upper Lissie is 100 feet or more in thickness at the outcrop in northern Harris County. The Lissie Formation is considered to be equivalent to the Alta Loma Sand of the Chicot Aquifer.

The Willis Formation is a Pleistocene fluvial deposit comprised of clay, silt, and sand with lesser amounts of granule to pebble size siliceous gravels. The Willis deposits are less than 75 feet thick at their outcrop in northern Harris County, significantly weathered, and locally cemented by iron-oxide.

The Goliad Sand is Pliocene in age and overlies the Miocene Fleming Formation. It outcrops in Montgomery County at a thickness of approximately 300 feet and consists of chalky white and pink bentonitic clays, gravelly beds, and carbonate cemented sandstone lenses. The Goliad Sand reaches a thickness of approximately 2400 feet in Galveston County at a depth of 1200 feet below MSL. The Goliad Sand is equivalent to the Evangeline Aquifer.

IV. SITE HYDROLOGY AND GEOLOGY

Safety-Kleen

SWR 71144

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Topographically the area of the facility is relatively flat with an approximate surface gradient of 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou. The facility is situated on an outcrop of the Pleistocene Beaumont Formation which at the site is comprised of clays, clayey sands and silts of low to moderate permeability. See Section B of the CME Report Checklist for additional information. The sediments at the site appear typical of Beaumont Formation fluvio-deltaic clastic deposits. Sediments are dominantly fine grained ranging from clay to lesser amounts of fine sand. The environments of deposition represent back swamp, overbank, natural levee, point-bar and stream channel deposits. The cross section included as **Attachment 2**, suggests that the drilled interval below the site can be subdivided into three zones. Zone I is a clay section present from ground surface to 14 feet below ground surface (BGS). Zone II is a coarser clastic section that appears from 13 to 18 feet BGS. Zone II grades laterally from sand in the northeastern portion of the site at well MW-7 to silt in the area of wells MW-3 and RW-1, back to sand in the area of MW-9, and MW-1, and silt and clay in the southeastern portion of the site at well MW-5. Zone III is a predominately clay section which underlies Zone II. Several conductive intervals are encountered within the zone in wells MW-3, RW-1, and MW-5. Wells MW-3 and RW-1 encounter the Zone II interval from approximately 13 to 17 feet BGS. A second conductive interval is present in both wells at approximately 18.5 to 20 feet BGS. This second sand is included in Zone III in this report. The well screens for both wells are set across this Zone II sand and also the deeper sand. A Zone III sand is also described in well MW-5. In well MW-5 the sand was encountered at 29 - 30 feet BGS. The section was not screened in the well.

The term "Uppermost Aquifer" as defined in the Compliance Plan Section I.A. is described as the "uppermost of first water-bearing zone that ranges in elevation from approximately 62 to 54 feet above Mean Sea Level (MSL). The top of the Uppermost Aquifer is approximately 12 feet below ground surface (BGS). Ground water is typically encountered 10 to 12 feet BGS". Depth to ground water at the site fluctuates seasonally. Water levels in all wells dropped approximately two feet from the May 24, 2002 sampling event to the November 26, 2002 sampling event. The water levels dropped from the November 26, 2002 sampling event to the May 29, 2003 sampling event approximately one foot in all wells. The groundwater elevations in all wells over the past three sampling events appear to show a potentiometric rise above the top of the Zone II conductive interval, suggesting that the unit is a confined aquifer. Groundwater elevation maps were prepared for the last three sampling events, and are included as **Attachment 3**. The maps show a fairly consistent direction of groundwater flow, with flow to the east southeast in the southern portion of the facility. Flow in the northern portion of the site appears to be toward well MW-3 (See Vector maps included in **Attachment 3**.) The apparent influence of the well on flow in the area could be attributable to a number of causes including an offsite drainage feature, or a survey error. As the well was completed across the Zone II conductive interval, and a deeper Zone III sand, the well could also be influenced by a downward component of groundwater flow from the shallower to the deeper sand.

As a result of this investigation the monitoring wells were resurveyed on June 24, 2003. Well elevations were noted to vary up to 0.89 feet (MW-3) from the 1997 to the 2003 survey. The 0.89 foot error in elevation at well MW-3 appears to be responsible for the apparent influence of the well on the groundwater flow at the site as discussed above. An additional groundwater elevation and vector map was prepared for the May 2003 sampling event using the new (June 2003) elevations. The map is included **Attachment 3**.

V. SUMMARY OF FINDINGS

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Two wells were selected to be co-sampled with the contract personnel retained by SK, wells MW-1 and MW-2. The wells were selected as down gradient wells in the uppermost aquifer. The sampling was conducted on May 29, 2003. The TCEQ analysis consisted of Volatile Organic Compounds (VOC), by method 8260B, and total RCRA metals (unfiltered) via method 6010B, (method 7470A for mercury). The facility's analysis consisted of nitrate and sulfate by method 9056, and chlorobenzene and xylene by method 8260B. The facility and agency sample analysis compared favorably for wells MW-1 and MW-2, with the Agency's analysis showing chlorobenzene in well WM-2 of 10.4 parts per billion (ug/l), and the facility's analysis for the wells showing 13 ug/l.

The facility is conducting Monitored Natural Attenuation (MNA) under the compliance plan. The sample analysis results were reviewed from the start of MNA (September 30, 1998) to the current sampling event, **See Attachment 4**. Well MW-3 first detected chlorobenzene on May 24, 2002. The well has detected increasing concentrations of chlorobenzene for the last three sampling events. Well MW-2 had non detects for chlorobenzene for the last two sampling events, but detected chlorobenzene in the current sampling event. Wells MW-8 and MW-9 may also show increasing levels of chlorobenzene from the date that active groundwater remediation ceased. The increasing levels of chlorobenzene in the wells, and the fact that no well exists between either well MW-2 or MW-3 and the facility's property line is addressed in the alleged violations section of this report.

Areas of concern and alleged violations were documented during the investigation. A sampling and analysis plan was not available in the facility files, and was not used during the sampling event. The failure to maintain a sampling and analysis plan was cited as an alleged violation. A number of deficiencies noted during the sampling event can be attributed to not utilizing a SAP. A sampling and analysis plan dated "Revised April 1998" was obtained by the facility from the TCEQ Austin Central Records microfiche after the sampling event. The plan is included as **Attachment 7**.

The facility's Chain of Custody (COC) forms and sample analysis results are included as **Attachment 5**. TCEQ COC forms, and sample analysis results are included as **Attachment 4**.

The outstanding and resolved alleged violations, and outstanding and resolved areas of concern from the investigation are listed below.

VI. SUMMARY OF ALLEGED VIOLATIONS AND AREAS OF CONCERN

Summary of Outstanding Alleged Violations:

1.) Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan, (Category B-3).

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should maintain and utilize an appropriate SAP.

2.) Compliance Plan No. CP-50236 Provision V.A.1,2, and 4, Performance Standard, (Category B-11).

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The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line. The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

3.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction, (Category C-3).

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements the Compliance Plan.

4.) Permit Provision IV.B.1 Authorized Wastes, (Category B-18).

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

5.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements, (Category C-3).

Field observations including descriptions of the appearance (Clarity, color, etc.) shall be recorded. The field data sheets (See Attachment 11), do not record all required information.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

Summary of Resolved Alleged Violations

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1.) **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 16, Well Construction, (Category C-3).**

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, (See Attachment 3) therefore the alleged violation is considered resolved.

Summary of Outstanding Areas of Concern:

- 1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over .03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

- 2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

- 3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

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- 4.) Monitoring well RW-1 appears to still not required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

5.) During the current sampling event, all well were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

- 6.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company (**See Attachment 11**). The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

- 7.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

- 10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

Note: The above citations contain the complete rule references and descriptions of violations. The citations, which are automatically generated by the database system and found in the next section titled "Resolved Violation", are not complete and should be disregarded at this time.

July 23, 2003

**CERTIFIED MAIL {Certified #}
RETURN RECEIPT REQUESTED**

Mr. Ricardo Saucedo, P.E.,
Environmental, Health & Safety Manager
Safety-Kleen Corporation.
5243 Sinclair Road
San Antonio, Texas 78222

Re: Notice of Violation for the Comprehensive Ground-Water Evaluation Investigation at:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, (Fort
Bend County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

On May 29 and June 6, 2003, Charles Burner of the Texas Commission on Environmental Quality (TCEQ) Houston Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for industrial solid waste. Enclosed is a summary which lists the investigation findings. During the investigation, some concerns were noted which were alleged noncompliances that have been resolved through verbal notification and subsequent corrective action. In addition, certain outstanding alleged violations were identified for which compliance documentation is required. Please submit to this office by August 23, 2003 a written description of corrective action taken and the required documentation demonstrating that compliance has been achieved for each of the outstanding alleged violations.

In the listing of alleged violations, we have cited applicable requirements, including TCEQ rules. If you would like to obtain a copy of the applicable TCEQ rules, you may contact any of the sources listed in the enclosed brochure entitled "Obtaining TCEQ Rules."

The Texas Commission on Environmental Quality appreciates your assistance in this matter. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements. We anticipate that you will resolve the alleged violations as required in order to protect the State's environment. If you have additional information that we are unaware of, you have the opportunity to contest the violation(s) documented in this notice. Should you choose to do so, you must notify the Houston Region Office within 10 days from the date of this letter. At that time, Ms. Marsha Hill, Waste Program Manager, will schedule a violation review meeting to be conducted. However, please be advised that if you decide to participate in the violation review process, the TCEQ may still require you to adhere to the compliance schedule referenced in paragraph one above until an official decision is made regarding the status of any or all of the contested violations.

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone #(713) 767-3616.

Sincerely,

Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Region 12 - Houston

Enclosure: Summary of Investigation Findings

Safety-Kleen Systems, Inc., Missouri City Facility
Summary of Investigation Findings
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SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.:71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: May 29 and June 6, 2003

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS

During this investigation, the following alleged violations were documented and remain outstanding.

1. Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should maintain and utilize an appropriate SAP.

2. Compliance Plan No. CP-50236 Provision V.A.1,2, and 4. Performance Standard

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

3. Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements of

Safety-Kleen Systems, Inc., Missouri City Facility
Summary of Investigation Findings
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the Compliance Plan.

4. **Permit Provision IV.B.1 Authorized Wastes**

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

5. **Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements**

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

SUMMARY OF ALLEGED VIOLATIONS RESOLVED

During this investigation, the following alleged violation was documented and subsequently resolved after corrective action.

1. **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 16, Well Construction**

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, therefore the alleged violation is considered resolved.

SUMMARY OF OUTSTANDING AREAS OF CONCERN

During this investigation, the following areas of concern were documented and remain to be addressed.

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also

Safety-Kleen Systems, Inc., Missouri City Facility
Summary of Investigation Findings
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screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

4. Monitoring well RW-1 appears to still have no longer required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

5. During the current sampling event all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

6. A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

Safety-Kleen Systems, Inc., Missouri City Facility
Summary of Investigation Findings
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7. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

- 9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

- 10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

**TCEQ INDUSTRIAL AND HAZARDOUS WASTE INSPECTION REPORT
INVESTIGATION COVER SHEET**

IHW Reg. No.: 71144 HW Permit No.: 50236 EPA ID No.: TXD010803203 UIC Permit No.: N/A
Name of Company: Safety-Kleen Systems Inc. Telephone No.: 210-648-7066
Mailing Address: 1580 Industrial Rd., Missouri City, TX 77459 Site Address: Same
County: 79- Fort Bend Type of Industry: 532299 Equipment Rental and Leasing
Previous Name(s) of Company (if applicable): N/A
Property Owner (if different than company): N/A

TYPE FACILITY (Check all that apply): Permitted ☒ Interim-Status ☐ LQG ☒ SQG ☐ CESQG ☐
EXEMPTIONS: SAA

FAC. CLASSIFICATION (Check all that apply): Industrial ☒ Municipal ☐ Commercial ☐
Government ☐ Non-Gov't. ☒

OPERATIONAL STATUS: active

Current Waste Management: Generator H, 1, 2
Treatment
Storage H, 1, 2
Disposal
Transporter
Pending Notification
and Waste Determination (for Non-Notifiers)

H = Hazardous
1 = Class 1 Non-hazardous
2 = Class 2 Non-hazardous
3 = Class 3 Non-hazardous

H W Permitted Units (circle): **C T SI WP LT LF I TT TR WDW BIF MU**
H W Interim St. Units (circle): **C T SI WP LT LF I TT TR WDW BIF**
H W Permit-Exempt Units: **C T SA CB DP**
N H Units (circle codes): **C T SI WP LT LF I TT TR WDW MU**
(double circle if permitted)

TYPE OF INSPECTION (circle): **CEI SPL NRR CME CSE CDI OAM**

OTH (+ reason) 06 = closure inspection 22 = SPL results 34 = UIC inspection
39 = BIF/multi media 49 = BIF 53 = multi-media inspection
61 = state inspection

Inspector's Name and Title Charles Burner, Field Investigator
Inspection Participants Mr. Thomas Forbes, Project Technical Manager, and Mr. James D. White, CAD Operator,
Environmental Technician, ATC Associates Inc.

Date(s) of Inspection : May 29, 2003 June 6, 2003
(begin) (end)

Signed: _____ Approved: _____
(date) (date)

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

**CME INSPECTION REPORT
CONTENTS SHEET**

- ✓ 1. Comprehensive Monitoring & Evaluation Log (CMEL)
- ✓ 2. Inspection Cover Sheet
- ✓ 3. Contents Sheet
- ✓ 4. CME Hydrogeologic & Compliance Evaluation Report
- ✓ 5. CME Inspection Checklist
- ✓ 6. Sample Analyses Report Checklist
- ✓ 7. List of Attachments
- ✓ 8. Compliance Status Letter to Facility (NOV)
- ✓ 9. Interoffice Memorandum (with Summary of Findings)
- ✓ 10. Other: List of Attachments

NOTE: If a required checklist is omitted, explain below:

COMMENT: _____

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

**CME INSPECTION REPORT
HYDROGEOLOGIC & COMPLIANCE EVALUATION REPORT**

Section A -- Introduction

1. Facility Name: Safety-Kleen Systems, Inc. (SK)
2. Permit No.: 50236 Compliance Plan No.: 50236
3. Facility Description:

SK is located at 1580 Industrial Boulevard in Missouri City, Fort Bend County, Texas. The business occupies a two-acre tract. The location is in drainage area of Stream Segment 1102 of the San Jacinto-Brazos Coastal Basin. Land use in the area is mixed industrial, commercial and residential. The facility has been in operation at the location since 1975.

Safety-Kleen is a commercial storage and handling facility which provides spent solvent recycling services, and waste management services to primarily small businesses. The facility operates under the authorization of TCEQ Permit No. HW-50236, issued on October 9, 1991, and renewed on May 5, 2003. SK was also issued a compliance plan for two former underground storage tanks (USTs), and four wet dumpsters which for the Compliance Plan were combined to form Unit AA, See Attachment 1. In August 1987, Unit AA was closed. During closure, affected soils were noted. Analysis of the affected soils confirmed a release of mineral spirits. In February 1989, a hydrological assessment confirmed dissolved phase hydrocarbons in the groundwater. Pursuant to Provision VIII of the Permit, SK was required to conduct a RCRA Facility Investigation (RFI) of Unit AA. In lieu of conducting an RFI, SK submitted a Compliance Plan application in January 1992. The plan was approved by the agency in January 1994.

4. Date of Previous CME: The previous CME was conducted at the site on December 11, 1996, and January 3, 1997.
5. Chronology of Ground-Water Monitoring Activities Since the Previous CME (or inception of groundwater activities if no CME conducted):
 - 6/12/2001 Submittal of Permit and Compliance Plan renewal.
 - 9/30/1998 The pump and treat groundwater remediation system was shut down after the agency approved a Compliance Plan major amendment via letter to the facility on August 31, 1998. The amendment authorized monitored natural attenuation (MNA) to address the groundwater contamination at the facility.
 - 5/5/2003 Issuance of Permit and Compliance Plan, conversion to MNA, change of well designations for point of compliance and background wells.

6. RCRA Regulated Waste Management Unit(s) (WMU) Requiring Ground-Water Monitoring:

SK was issued a compliance plan for two former underground storage tanks (USTs), and four wet dumpsters which for the Compliance Plan were combined to form Unit AA. One of the former USTs was used for the storage of spent solvent, and one for storage of product, (See Attachment 1). In August 1987 Unit AA was closed. During closure affected soils were

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

noted and analysis confirmed a release of mineral spirits. In February 1989, a hydrological assessment confirmed dissolved phase hydrocarbons in the groundwater. Pursuant to Provision VIII of the Permit, SK was required to conduct a RCRA Facility Investigation (RFI) of Unit AA. In lieu of conducting an RFI, SK submitted a Compliance Plan application in January 1992. The plan was approved by the agency in January 1994.

- a. Indicate all WMUs subject to RCRA Ground-Water Monitoring and the location of the monitoring wells on a site diagram as **Attachment 1**.
- b. Unit Information -
 - Unit Name: Unit AA
 - Facility No.: Permit No.1, NOR Unit 01
 - Size: Two 15,000 gallon USTs, four wet dumpsters, and an inactive tank pit.
 - Year in Service: May 1975
 - Status: The UST's and dumpsters were removed in August 1987, and the inactive tank pit was closed. Construction: Steel tank without secondary containment.

Section B -- Technical Review**1. Regional Geology**

The Coastal Plain of Texas encompasses a 200 to 250 mile wide band paralleling the present-day coastline of the Gulf of Mexico. Cenozoic sediments were deposited along this band to form a gulfward thickening wedge of gravel, sand, silt, and clay facies tens of thousands of feet thick at the coast. Holocene, Pleistocene, and Pliocene deposits crop out across the upper Texas Coastal Plain with the older Pliocene strata exposed furthest from and dipping toward the present day Gulf. The Pliocene strata is overlain by younger Pleistocene units and Holocene alluvium resulting in progressively younger bands of sediment toward the gulf. These sediments were deposited by fluvial to fluvial-deltaic processes, prograding to nearshore marine deposition toward the gulf. The variability of depositional environments combined with growth faulting and subsidence, common to the Gulf Coast, results in stratigraphically heterogeneous strata. See **Attachment 2, for Regional Cross Section**. The regional topography is relatively flat, and slopes gently to the east in the area of the facility with an approximate surface gradient of 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou.

a. Formation(s) - (Youngest to Oldest)

The facility is situated on an outcrop of the Pleistocene Beaumont Formation which at the site is comprised of clays, clayey sands and silts of low to moderate permeability.

The outcrop of the Beaumont Formation of the uppermost Pleistocene Series extends from approximately Little York Road in northwest Houston to Galveston Bay and averages 100 feet in thickness (Geologic Atlas of Texas, Houston Sheet). Across much of the area Beaumont deposits are clayey sand and silt of moderate permeability and drainage, low to moderate compressibility and shrink-swell potential, and high shear strength; clay and mud of low permeability and poor drainage, high water-retention capacity, high compressibility, high to very high shrink-swell potential, low shear strength, and high plasticity. The surface features are low to depressed relief and poor drainage. The fine-grained

*** An entry in this column indicates corrective action or comment is needed.

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sediments were deposited in interdistributary, abandoned channel-fill, and overbank fluvial environments. Sand and silt sediments were deposited in meanderbelt, levee, crevasse splay, and distributary sand settings.

The Lissie Formation is Pleistocene in age and has been divided into the Upper Lissie and Lower Lissie, corresponding to the Montgomery and Bentley Formations, respectively. The lower unit is approximately 1000 feet thick at the outcrop in northern Harris County and consists of clay, silt, sand, and minor amounts of gravel. The upper unit differs from the lower one, in that the upper is locally calcareous with concretions of calcium carbonate, iron oxide, and manganese oxide. The Upper Lissie is 100 feet or more in thickness at the outcrop in northern Harris County. The Lissie Formation is considered to be equivalent to the Alta Loma Sand of the Chicot Aquifer.

The Willis Formation is a Pleistocene fluvial deposit comprised of clay, silt, and sand with lesser amounts of granule to pebble size siliceous gravels. The Willis deposits are less than 75 feet thick at their outcrop in northern Harris County, significantly weathered, and locally cemented by iron-oxide.

The Goliad Sand is Pliocene in age and overlies the Miocene Fleming Formation. It outcrops in Montgomery County at a thickness of approximately 300 feet and consists of chalky white and pink bentonitic clays, gravelly beds, and carbonate cemented sandstone lenses. The Goliad Sand reaches a thickness of approximately 2400 feet in Galveston County at a depth of 1200 feet below MSL. The Goliad Sand is equivalent to the Evangeline Aquifer.

References:

- Fisher, W. L., 1982, Geologic Atlas Sheet of Texas - Houston Sheet, Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.
- Baker, E. T., Jr., 1979, Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas, Texas Department of Water Resources, Report 236.

- b. Regional Dip and Gradient: The approximate surface gradient is 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou.

Reference: U.S.G.S. Topographic Map, Missouri City Quadrangle, Texas (1980)

2. Site Geology

The sediments at the site appear typical of Beaumont Formation fluvio-deltaic clastic deposits. Sediments are dominantly fine grained ranging from clay to lesser amounts of fine sand. The environments of deposition represent back swamp, overbank, natural levee, point-bar and stream channel deposits. The cross section included as **Attachment 2**, suggests that the drilled interval below the site can be subdivided into three zones. Zone I is a massive clay section present from ground surface to 14 feet below ground surface (BGS). Zone II is a courser clastic section that appears from 13 to 18 feet BGS. Zone II grades laterally from sand in the northeastern portion of the site at well MW-7 to silt in the area of wells MW-3 and RW-1, back to sand in the area of MW-9, and MW-1, and silt and clay in the southeastern portion of the site at well MW-5. Zone III is a predominately clay section which underlies Zone II. Several conductive intervals are encountered within the zone in wells MW-3, RW-1, and MW-5. Wells MW-3 and RW-1 encountered the Zone II interval from approximately 13 to 17 feet BGS. A second conductive interval is present in both wells at approximately 18.5 to 20 feet BGS. This second sand is included in Zone III in this report. The well screens for both wells are set across this Zone II sand and also the deeper sand. A Zone III sand is also described in well MW-5. In well MW-5 the sand was

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encountered at 29 - 30 feet BGS. The section was not screened in the well.

a. Site Diagram - Attachment 1

b. Site Stratigraphy -

- i. Depth of investigation: Surface to 30 feet below ground surface (BGS)
- ii. Geologic Units -

Unit Name: Zone I, Aquitard

Depth interval

encountered: Ground surface to -13 feet BGS

Description: Surficial clay, massive, red tan gray, rare silty. Thickness varies from 12.5 to 14 feet.

Unit Name: Zone II, Aquifer

Depth interval

encountered: -13 to -18 feet BGS

Description: Designated as the uppermost water bearing zone and characterized by very fine grained sand. Red, grading to silt and clay. The unit appears to be continuous across the site, however it contains interbeds of clay and silt. The zone ranges in thickness from 3.5 to 5 feet.

Unit Name: Zone III, Aquitard

Depth interval

encountered: -18 to -29 feet BGS

Description: Clay unit which underlies Zone II Aquifer. Red to gray clay, somewhat silty. The thickness of the unit has not been delineated at the site as most of the wells / borings terminated above 20 feet below ground surface. Boring B-1 was drilled to a depth of 48 feet and encountered the unit from -25 to -31 feet below ground surface. Well MW-5 encountered the interval from 17 to 29 feet. MW-5 was terminated in a basal sand unit from 29 to 30 feet below ground surface.

c. Cross-sections provided as Attachment 2.

3. Regional Hydrology

The major aquifers of the upper Coastal Plain of Texas are the Chicot Aquifer (Pleistocene) and the Evangeline Aquifer (Pliocene), together referred to as the Gulf Coast Aquifer. The Chicot comprises the following stratigraphic units (in order of increasing age): Holocene alluvium and marginal bay deposits, the Beaumont Formation, Lissie Formation, and Willis Sand. The Evangeline Aquifer consists of the Goliad Sand stratigraphic unit. From the Quaternary outcrop in northwest Houston, the Chicot thickens from approximately 200 ft. to 1200 ft. at the present day coastline. The Evangeline outcrops in central Montgomery County at a thickness of approximately 400 ft. and thickens to 2400 ft. near the coastline at a depth of 1200 ft. below sea level. Because a distinct regional aquitard is not always discernable between the two aquifers, delineation between the Chicot and Evangeline is based on the occurrence of a higher sand-clay ratio in the Chicot than the Evangeline, differences in hydraulic conductivities, or differences in water levels.

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The Chicot is the major source of fresh water in Galveston and southern Harris Counties and the Evangeline is the primary producer of fresh water in the Houston district; both are confined aquifers. Heavy pumping caused large declines in the elevations of the potentiometric surfaces of both aquifers, creating a large cone of depression in the eastern Houston area. However, the principal source of water for industries along the Houston and Texas City Ship Channels has switched from ground water to surface water resulting in recovering water levels in the Chicot and Evangeline Aquifers. The Beaumont Clay of the upper Chicot acts as a hydraulic barrier between the artesian aquifers and the surficial water table.

The Evangeline consists of alternating clay and gravel and yields potable water to a depth of about 1700 feet. The Evangeline is overlain by the Chicot which is about 600 feet at the site. The Chicot contains alternating beds of clay, silt, and sand. Water wells within the City of Pasadena over a 36-year period ending in 1991 showed the highest levels for the two aquifers at 148 feet below ground level in 1989 for a Chicot well, and 233 feet below ground level in 1990 for an Evangeline well. The most transmissive portions of the Chicot are below 280 feet at the site.

References:

Baker, E. T., Jr., 1979, Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas, Texas Department of Water Resources, Report 236.

Kreitler, C. W.; Guevera, E.; Granata, G.; and McKalips, D., 1977, Hydrogeology of Gulf Coast Aquifers, Houston-Galveston Area, Texas, Transactions-GCAGS, Volume XXVII.

Gabrysch, R. K., 1984, Ground Water Withdrawals and Changes in Water Levels in the Houston District, Texas, 1975-79; Texas Department of Water Resources, Report 286.

a. Regional ground-water flow -

Direction: Chicot - SSE

Evangeline - SSE

Reference: Ground Water Withdrawals and Changes in Water Levels in the Houston District, Texas, 1975-79; Texas Department of Water Resources.

b. Is the site located on the recharge area of a major aquifer?

No.

c. Is the site located on the recharge area of a minor aquifer?

No.

4. Site Hydrology

The term "Uppermost Aquifer" as defined in the Compliance Plan Section I.A. is described as the "uppermost of first water-bearing zone that ranges in elevation from approximately 62 to 54 feet above Mean Sea Level (MSL). The top of the Uppermost Aquifer is approximately 12 feet below ground surface (BGS). Ground water is typically encountered 10 to 12 feet BGS." Depth to ground water at the site fluctuates seasonally. The depth to groundwater in the last three sampling events varied with the water levels in all wells dropping approximately two feet from the May 24, 2002 sampling event to the November 26, 2002 sampling event. The water levels dropped from the November 26, 2002 sampling event to the May 29, 2003 sampling event approximately one foot in all wells. The groundwater elevations in all wells over the past three

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sampling events appear to show a potentiometric rise above the top of the Zone II conductive interval, suggesting that the unit is a confined aquifer. Groundwater elevation maps were prepared for the past three sampling events, and are included as **Attachment 3**. The maps show a fairly consistent direction of groundwater flow over the three sampling events, with flow to the east southeast in the southern portion of the facility. Flow in the northern portion of the site appears to be toward well MW-3 (See Vector maps included in **Attachment 3**). The apparent influence of the well on the flow could be attributable to a number of causes including an offsite drainage feature, or a survey error. As the well was completed in the Zone II, and a deeper Zone III sand the well could also be influenced by a downward component of groundwater flow from the shallower to the deeper sand.

As a result of this investigation the monitoring wells were resurveyed on June 24, 2003. Well elevations were noted to vary up to .89 feet (MW-3) from the 1997 to the 2003 survey. The .89 foot error in elevation at well M W-3 appears to be responsible for the apparent influence of the well on the groundwater flow at the site as discussed above. An additional groundwater elevation and vector map was prepared for the May 2003 sampling event using the new (June 2003) elevations. The map is included **Attachment 3**.

a. Saturated zone(s) and aquitard(s) -

Unit: Zone I, Aquitard

Depth interval encountered: (ft-ft): Surface to -13 ft BGL

Saturated thickness: N/A.

Confined/unconfined: N/A

Potentiometric rise (if confined): NA

Horizontal hydraulic conductivity (k): unknown

Source of k value: N/A

Vertical hydraulic conductivity (k): unknown

Source of k value: N/A

Unit: Zone II, Aquifer, Designated "uppermost of first water-bearing zone"

Depth interval encountered: -13 to -18 feet MSL

Saturated thickness: 3 - 5 feet

Confined/unconfined: unconfined

Potentiometric rise (if confined):

Horizontal hydraulic conductivity: 6.3×10^{-5} ft/sec

Source of k: Slug tests, May 1991, referenced in 1997 CME report, well and depth were not specified.

Vertical hydraulic conductivity (k): unknown

Source of k value: N/A

Unit: Zone III, Aquitard

Depth interval encountered (ft-ft): -18 - 29 feet MSL (zone is poorly delineated at the site, there are limited full penetrations of the interval at the site).

Saturated thickness: N/A

Confined/unconfined: N/A

Potentiometric rise (if confined): N/A

Horizontal hydraulic conductivity (k): unknown

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Source of k value: N/A

Vertical hydraulic conductivity (k): unknown

Source of k value: N/A

- b. Is the first water-bearing zone identified in Section B.4.a., above, in communication with a deeper zone(s)?

Unknown, lower sand seen at a depth of 29 feet below ground surface in boring B-1 and from 29 to 30 feet below ground surface in well MW-5 does not appear to have been evaluated. However, the Zone III clay may have sufficient thickness, and low permeability (based on lithologic descriptions only) to act as an effective aquitard. Groundwater elevation maps prepared for the past three sampling events suggest that the Zone II sand could be in communication with a Zone III sand, See section 4., Site Hydrology, above.

COMMENT: This was addressed as an area of concern in the report.

- c. Is the aquitard(s) continuous beneath the site?

The Zone III aquitard appears to be continuous beneath the site, however the interval appears to be poorly tested as only one boring and one well appear to have drilled the full section of Zone III.

- d. Geologic unit(s) monitored during interim status: N/A

- e. Geologic unit designated as the uppermost aquifer in the Part B application/permit: Zone II Aquifer

Concur with designation? Unknown, A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done the assessments were not found in the facility files, and could not be provided by the facility's consultant. Additionally, slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands.

COMMENT: These issues are addressed as an area of concern in the report.

5. Site Ground-Water Movement

- a. Potentiometric surface map(s) provided as **Attachments 3**.

- b. Calculations of minimum and maximum observed gradients (i) in units of feet/foot, based on 1997 well survey.
Zone II

I(min) = Well MW-5 to 62.45 ft contour, .04 ft / 35.82 ft = 1.1×10^{-3} ft/ft

I(max) = Well RW-1 to MW-3, .51 ft / 26.7 ft = .019 ft/ft

- c. Calculation of Flow Rate(v) in feet/day.

$v = ki/n_e$

(k=hydraulic conductivity; n_e =effective porosity; i=gradient)

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Zone II

$$v = ki/n_e = 5.74 \times 10^{-3} \text{ ft/day} \quad [k = 6.3 \times 10^{-5} \text{ ft/sec} = .09072 \text{ ft/day, } i_{\text{max}} = .019 \text{ ft/ft, } n_e = 0.30]$$

Reference: Conductivity used (6.3×10^{-5} ft/sec or .09072 ft/d) is the value reported in the prior CME to be from slug tests conducted in May 1997. No further reference to slug tests was found in the agency or facility files. The effective porosity selected is estimated based on lithologic descriptions, the gradient used was maximum calculated in b. above.

6. Monitor Well Construction and Vertical Placement.

a. Table of well construction details provided as Attachment 6.

b. Vertical placement of wells satisfactory?

Comment: Unknown, wells MW-3 and RW-1 may be screened across two separate hydraulic intervals, Zone II, and a sand within Zone III.

COMMENT: This is addressed as an area of concern in the report.

c. Are detailed well installation diagrams, including lithologic logs, available for all monitor wells?

No, well completion information is missing for facility wells MW-5, MW-6, and MW-7.

COMMENT: This is addressed as an alleged violation in the report.

Section C -- MONITORING SYSTEM COMPLIANCE WITH RULES AND PERMIT/COMPLIANCE PLAN PROVISIONS

- | | |
|--|---|
| 1. Interim Status Detection Monitoring | N/A <input checked="" type="checkbox"/> |
| 2. Interim Status Assessment Monitoring | N/A <input checked="" type="checkbox"/> |
| 3. Permitted Status Detection, Compliance, or Corrective Action Monitoring | N/A <input type="checkbox"/> |

List unit(s) operating under this status (specify detection, compliance, or corrective action monitoring for each unit, delete Section C.3. if N/A): Permit unit 008, NOR unit 010.

a. Does the ground-water monitoring system consist of a sufficient number of wells, installed at appropriate locations depths to yield ground-water samples from the uppermost aquifer that:

i. Represent the quality of background water that has not been affected by leakage from a regulated unit?
[335.163(1)(A)/264.97(a)(1)]

COMMENT: Yes

ii. Represent the quality of ground-water passing the point of compliance? [335.163(1)(B)/264.97(a)(2)]

No, Based on groundwater elevation maps, and Vector maps prepared for the last three sampling events point of compliance wells MW-1, MW-8, and MW-9 appear to be upgradient of Area AA. The wells do appear to be

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downgradient when the elevations for the current sampling event are calculated using the June 24, 2003 survey data. See Attachment 3.

COMMENT: This is addressed as an area of concern.

iii. Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management unit to the uppermost aquifer? [335.163(1)(C)/264.97(a)(3)]

COMMENT: See comment 3.a.ii. above.

b. Are all monitoring wells cased in a manner that maintains the integrity of the monitoring well borehole? [335.163(3)/264.97(c)]

COMMENT: Unknown, well completion information is not known for all wells, see Section 6.c above.

c. Does the ground-water monitoring system satisfy the requirements specified in the permit/compliance plan?

COMMENT: No, See comment 6.b. above.

d. Have any changes in ground-water flow direction occurred which would warrant a permit or compliance plan amendment to require additional point of compliance or background wells? [335.164(8)/264.98(h)]

COMMENT: See comment 3.a.ii. above

4. Compliance with Enforcement Order Provisions

N/A ☒

a. Has an enforcement order been issued to the facility?

COMMENT: no

b. Is the facility compliant with all provisions of the enforcement order concerning ground-water monitoring, assessment and corrective action?

COMMENT: N/A

*** An entry in this column indicates corrective action or comment is needed.

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***CME INSPECTION REPORT
CME INSPECTION CHECKLISTSection A -- INTRODUCTION

1. Facility Name: Safety-Kleen Systems, Missouri City Facility
2. RCRA Ground-Water Monitoring Status: Complete the table on the next page for each RCRA Waste Management Unit (WMU).
3. Do the locations of the monitoring wells on the site diagram(s) of the WMUs compare with the locations of the wells spot-checked in the field? N/A YES ☒ NO
4. Site Location Map - Attachment 1
(indicate site location directly on map or reproduction).

Section B -- MONITOR WELL SYSTEM REVIEW

1. Changes to the RCRA Monitor Well System:

Section II. of the Compliance Plan authorized SK to install and operate a corrective action system to address the groundwater contamination. The system originally consisted of a groundwater recovery and treatment system consisting of seven (7) wells; one recovery well (RW-1), one background well (MW-6), two Point of Compliance wells (POC) MW-8, and MW-9, and three Corrective Action Observation (CAO) wells. Two additional wells MW-5, and MW-7 located at the facility were used only for water level measurements. In March 1994 MW-4 was converted to recovery well RW-1, by replacing the original 4-inch PVC pipe with 6-inch stainless steel casing and screen. The groundwater recovery system which included a submersible recovery pump, a flow-through settling tank and a dual-canister activated carbon treatment filter was installed and initiated in May 1994. The pump and treat groundwater remediation system was shut down on September 30, 1998, after the agency approved a Compliance Plan major amendment via letter to the facility on August 31, 1998. The amendment authorized monitored natural attenuation to address the groundwater contamination at the facility, See **Attachment 9**. With the issuance of the Compliance Renewal on March 5, 2003, the monitoring well system detailed in Table IV of the Compliance Plan consisted of three (3) point of compliance wells (RW-1, MW-8, MW-9), and one background well, MW-7. A note to Table IV states that "Wells and piezometers identified on Attachment A maps that are not listed in this table are subject to change . . . without modification to the Compliance Plan." During the current sampling event the facility sampled all wells at the site.

- a. Have any monitor wells been installed or replaced? N/A NO YES ☒
 - i. If YES, has a copy of the well installation diagram including lithologic

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logs for each new well been submitted to the TCEQ?

N/A ☒ YES ☐ NO

If not, copies of these are included as Attachment.

- b. Have any monitor wells been designated as inactive since the last CME/O&M (still in place but not being used)?

N/A ☒ NO ☐ YES

- i. If YES, list: With the renewal of the Compliance Plan on of the issuance of the

- c. Have any monitor wells been removed/plugged?

N/A ☒ NO ☐ YES

- i. If YES, has the plugging report been submitted to the TCEQ?

N/A ☒ YES ☐ NO

- i. If YES, list and describe abandonment procedures:

*** An entry in this column indicates corrective action or comment is needed.

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RCRA GROUNDWATER MONITORING STATUS TABLE

Permit Fac. #	Fac. NOR Unit #	Name of Unit/WMA	Activity Status	Monitoring Status	Upgradient Wells/List	Downgradient Wells/List	Monitoring Frequency		
							Starting Date	Sampling Interval	Date of most Recent Sampling Event
008	010	AA / Landfill	CL	PCA, Monitored natural attenuation	BG well MW-7	POC wells RW-1, MW-8, MW-9	7/1994	SA	May 29, 2003

Permit Fac. # = Unit No. as designated in the Permit (N/A if not applicable)

Fac. NOR # = Unit number as designated in the Notice of Registration (NOR) Wells in bold are screened in the +10 ft Sand Zone, normal font is shallow silt

Wells in bold italic are screened in the -30 ft sand zone

Activity Status: A = Active, CL = Certified Closed, I = Inactive

Monitoring Status: ID = 265 Detection Monitoring, IQ = 265 Assessment Monitoring, IA = 265 Alternate or Partial waiver, PDM = 264 Detection Monitoring, PCM = 264 Compliance Monitoring, PCA = 264 Corrective Action Monitoring.

Upgradient/Downgradient wells: Indicate the number of wells and also list the wells for each unit or Waste Management Area (WMA)/Corrective Action Management Area (CAMU), POC = Point of Compliance wells for permitted units.

Sampling Interval: Quarterly (QTR), Semi-Annual (SA), Annual (A), Monthly (M), etc.

*** An entry in this column indicates corrective action or comment is needed.

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2. Field Observation of Monitor Wells: [335.112(a)(5) / 265.91(a)&(c); 335.116(a) / 265.90(a); 335.163(1)&(3) / 264.97(a)&(c)]
- a. General condition around monitor wells:
- i. Access maintained to well? N/A ___ YES ☒ NO ___
 - ii. Are there any indications of herbicide, pesticide, or other chemical use near the well that could influence the quality of samples? N/A ☒ NO ___ YES ___
 - iii. Are there "bumper poles/protector pipes" around the well to prevent collision damage where necessary? N/A ☒ YES ___ NO ___

COMMENT: The wells at the facility are flush mount.

- b. Is the monitor well identification number clearly visible? N/A ___ YES ☒ NO ___
- c. Is the monitor well equipped with a cap capable of being locked? N/A ___ YES ☒ NO ___
- i. If not, are there other provisions for security of well? N/A ☒ YES ___ NO ___
- ii. If applicable, describe: The facility perimeter is enclosed with security fencing. Security personnel are onsite at all times, site access is restricted.
- d. Monitor Well Casing:
 - i. Is there an outer protective casing? N/A ___ YES ☒ NO ___
 - ii. Is the casing in good condition? N/A ___ YES ☒ NO ___
- e. Monitor Well Surface Pad:
 - i. Does the monitor well have a surface pad? N/A ☒ YES ___ NO ___

COMMENT: Wells are flush mount, installed through a paved / concrete surface.

- ii. Are there indications of surface water infiltration down the borehole annulus? N/A ☒ NO ___ YES ___
- iii. If YES, describe the Company's actions to correct this condition:
(If applicable, document indications of damage to surface seal with photographs.)

COMMENT:

- f. Are water level measuring points permanently marked on each RCRA well? N/A ___ YES ___ NO ☒

COMMENT: Well MW-1 did not have a measuring point marked on the well. This was addressed as an Alleged Violation in the report, and was resolved after corrective action.

- g. Have water level measuring points been surveyed? N/A ___ YES ☒ NO ___
- i. Date of most recent survey:

COMMENT: The wells were last surveyed in 1997.

- h. Complete the Well Dimension Table below for wells observed during this inspection.

*** An entry in this column indicates corrective action or comment is needed.

* Note: includes correction, water level measuring point is marked on casing, survey point for well casing elevation is top of well cap.

*** An entry in this column indicates corrective action or comment is needed.

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a. Examine operator's records to make the following determinations:

i. For units in interim status detection monitoring or permitted status detection or compliance monitoring, does the operator evaluate the Ground-Water flow direction in the uppermost aquifer on at least an annual basis to verify well placement?

[335.112(a)(5) / 265.93(f); 335.164(5) / 264.98(e); 335.165(5) / 264.99(e)]

N/A ☒ YES ☐ NO ☐

ii. For units in interim status assessment monitoring, does the operator determine, on a quarterly basis, the Groundwater flow direction in the uppermost aquifer for use in determining the rate and direction of migration of hazardous constituents?

[335.112(a)(5) / 265.93(d)(7)]

N/A ☒ YES ☐ NO ☐

c. Describe operator's actions to address apparent well location errors in response to 40 CFR 265.93(f), 40 CFR 264.98(h), or 40 CFR 264.99(j) or permit or compliance plan provisions as applicable.

COMMENT: No apparent well location errors were noted.**Section C -- SAMPLING PROCEDURES**

1. Sampling & Analysis Plan (SAP)[335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d) / or as per permit]:

a. Is a SAP maintained at the facility?

N/A ☐ YES ☐ NO ☒

Specify date of SAP evaluated during this inspection:

COMMENT: The sampling crew was not aware of a SAP. No SAP was found in the facility files. A sample and analysis plan dated "Revised April 1998" was obtained by the facility from the TCEQ Austin Central Records microfiche after the sampling event. The plan is included as **Attachment 7**.

b. Does the SAP address the following items:

i. Sample collection procedures?

N/A ☒ YES ☐ NO ☐

ii. Sample preservation & shipment?

N/A ☒ YES ☐ NO ☐

iii. Analytical procedures?

N/A ☒ YES ☐ NO ☐

iv. Chain of Custody procedures?

N/A ☒ YES ☐ NO ☐

c. Is the Company following the requirements of the SAP?

N/A ☒ YES ☐ NO ☐

COMMENT: See Section C.1.a. comment above.

2. Measurement of Water Depths: [335.112(a)(5) / 265.90(a); 265.91(a)(1)&(2); 335.163(1) / 264.97(a)]

a. Are measurements of depth to standing water in the well obtained prior to well evacuation?

N/A ☐ YES ☒ NO ☐

b. Are measurements taken to the nearest 0.01 foot?

N/A ☐ YES ☒ NO ☐

c. What device is used?

COMMENT: Heron Electronic interface probe.

d. Is the monitoring equipment properly cleaned between well locations to prevent cross-contamination?

COMMENT: The samplers were noted to decontaminate the equipment between wells with DI water and alcanox. Note no SAP was located at the facility.

N/A ☐ YES ☒ NO ☐

*** An entry in this column indicates corrective action or comment is needed.

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3. Measurement of Total Depth of Well:[335.112(a)(5) / 265.91(a)&(c); 335.163(1) / 264.97(a)&(c)]

- a. Are measurements of the depth to the bottom of the well obtained? N/A ___ YES ☒ NO ___
- b. How frequently are the measurements made?

COMMENT: Every sampling event.

- c. What device is used?

COMMENT: Electric interface probe.

- d. If total depth of well is found to be decreasing, what action is taken by the facility?

COMMENT: Unknown, no SAP was located for the facility.

4. Measurement & Sampling of Immiscible Layers (if applicable). [335.116(a) / 265.90(a); 335.112(a)(5) / 265.91(a)&(c); 335.163(1)(A) / 264.97(a)]

- a. Are procedures used which will detect light phase immiscible layers? N/A ___ YES ___ NO ☒

COMMENT: Unknown, no SAP was located for the facility. An interface probe was used during the current sampling event, however the samplers used the instrument for depth to water only, and stated that none of the wells has napl.

- b. Are procedures used which will detect heavy immiscible layers? N/A ___ YES ___ NO ☒

COMMENT: Unknown, no SAP was located for the facility. An interface probe was used during the current sampling event, however the samplers used the instrument for depth to water only, and stated that none of the wells has napl.

- c. Are the detected immiscible layers sampled separately prior to well evacuation? N/A ☒ YES ___ NO ___

COMMENT: Unknown, no SAP was located for the facility.

- d. Do the procedures used minimize mixing with water soluble phases? N/A ☒ YES ___ NO ___

COMMENT: Unknown, no SAP was located for the facility.

5. Well Evacuation. [335.116(a) / 265.90(a); 335.112(a)(5) / 265.91(a)&(c); 335.163(1)(A)&(3) / 264.97(a)&(c)]

- a. Are wells evacuated to dryness or evacuated so that at least three casing volumes are removed? N/A ☒ YES ___ NO ___

COMMENT: The wells were sampled using low flow purging.

- b. How is well volume to be evacuated calculated?

COMMENT: The samplers used known volume/foot for the casing size.

- c. How is evacuated water measured?

COMMENT: Unknown, no SAP was located for the facility. The samplers used a five gallon bucket.

- d. What device is used to evacuate the wells?

COMMENT: All wells are purged and sampled with a rented 12 volt downhole sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unstable for sampling gas sensitive parameters such as

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

dissolved gasses, VOCs, metals. This is addressed as an area of concern in the reporte. How is evacuated water disposed?

COMMENT: The evacuated water is poured in the facility's drum washing system. Contaminated groundwater is not on the list of Wastes Managed in Permitted Units, Permit Table IV.B. This was addressed as an Alleged Violation in the Report.

f. If dedicated evacuation equipment is not used, is equipment thoroughly cleaned before the next use? N/A ☒ YES ☐ NO

i. Describe decontamination procedures.

COMMENT: The samplers did not use a SAP.

g. Is care taken to avoid placing clean evacuation equipment on the ground or other contaminated surfaces prior to insertion into the well? N/A ☐ YES ☒ NO

6. Sample Withdrawal. [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. How long does the operator allow the well to recover before sampling is conducted?

COMMENT: The sampling was conducted using low flow techniques.

b. Are samples for volatiles and pH obtained first, after the well recovers? N/A ☐ YES ☒ NO

c. Sampling Device:

i. Is the sampling device either a bottom valve bailer or a positive gas displacement bladder pump (Check one)?

N/A ☐ YES ☐ NO ☒

BOTTOM VALVE BAILER ☐

POSITIVE GAS DISPLACEMENT BLADDER PUMP ☐

COMMENT: All wells are purged and sampled with a rented downhole 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon pump is a 12v centrifugal multistage pump that is unstable for sampling gas sensitive parameters such as dissolved gasses, VOCs, metals. This is addressed as an area of concern in the report

1) Specify composition of sampling device

COMMENT: New PVC tubing from the pump to the surface.

2) Describe sampling device if other than one of the two mentioned above.

ii. If bailers are used, describe the composition of wire/rope used to raise and lower the bailer.

COMMENT: N/A

Is this material dedicated or new for each well?

DEDICATED ☐ NEW ☐

iii. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior to insertion into the well? N/A ☐ YES ☒ NO

iv. Describe storage procedures for sampling equipment between sampling events.

COMMENT: Sampling equipment is not stored on-site. All equipment used in non dedicated.

d. Non-Dedicated Sampling Equipment:

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

- i. If non-dedicated sampling equipment is used, is equipment disassembled and thoroughly cleaned between samples? N/A ___ YES ___ NO ✓

ii. Describe decontamination procedures.

COMMENT: The pump was rinsed with DI and alcanox.

- iii. Are equipment blanks taken to ensure that sample cross-contamination has not occurred? N/A ___ YES ✓ NO ___

COMMENT:

- e. If volatile samples are taken with a positive gas displacement bladder pump, are pumping rates below 100 ml/min? N/A ✓ YES ___ NO ___

f. If bailers are used:

- i. Are they lowered slowly to prevent de-gassing of the water? N/A ✓ YES ___ NO ___

- ii. Are the contents transferred to the sample container in a way that will minimize agitation and aeration? N/A ✓ YES ___ NO ___

7. Field analyses: [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

- a. Which of the following chemically unstable parameters are determined in the field?
- i. pH? N/A ___ YES ✓ NO ___
- ii. Temperature? N/A ___ YES ✓ NO ___
- iii. Specific conductivity? N/A ___ YES ✓ NO ___
- iv. Other (specify) (a rented flow cell and spot sampling is also used to measure Turbidity, oxygen reduction potential, and dissolved oxygen) N/A ___ YES ✓ NO ___

b. Are in-situ determinations made BEFORE (___) or AFTER (✓) well purging?

c. Are in-situ determinations made BEFORE (✓) or AFTER (___) well sampling?
Describe parameters for in-situ determinations:

COMMENT: pH- standard units, Temperature Deg. C., Specific conductivity μ S, dissolved oxygen mg/l, oxygen reduction potential volts, turbidity ntu.

- d. Is measuring equipment calibrated according to manufacturers' specifications and consistent with SW-846? N/A ___ YES ✓ NO ___

- e. Is the equipment calibration date, procedure, and maintenance documented in the field logbook? N/A ___ YES ___ NO ✓

COMMENT: The flow through cell was rented. The equipment was rented and calibrated two days before the sampling event by the rental service. The equipment was not recalibrated the day of the sampling event by the sampling crew. This is addressed as an area of concern in the report.

8. Sample containers: [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

- a. Are samples transferred from the sampling device directly to their containers? N/A ___ YES ✓ NO ___

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

b. Are sample containers for metals analysis polyethylene with polypropylene caps? N/A ☒ YES ☐ NO

c. If glass bottles are used for metals samples, are the caps Teflon-lined? N/A ☒ YES ☐ NO

d. Are the sample containers for metals analysis cleaned using the following sequential steps? N/A ☒ YES ☐ NO

If different procedures are used, describe:

COMMENT: All samples are collected in new certified sterile containers provided by the laboratory.

e. Are sample containers for organics analysis glass bottles with Teflon-lined caps? N/A ☐ YES ☒ NO

f. Are sample containers for organics analysis cleaned using the following sequential steps? YES ☐ NO ☒
Nonphosphate detergent; tap water rinse; pesticide-grade hexane or methanol rinse;
acetone rinse; distilled/deionized water rinse.
If different procedures are used, describe.

COMMENT: All samples are collected in new certified sterile containers provided by the laboratory.

g. Is a trip blank prepared and analyzed for samples being analyzed for volatile organics? YES ☒ NO ☐

COMMENT: The trip blank was not listed on the original COC, but was added by the laboratory. See COCs included in Attachment 5, and Attachment 5 page 36 of laboratory report "Sample Receipt Variance Form". This was addressed as an area of concern in the report.

h. Is at least one field duplicate prepared for each batch of samples? N/A ☐ YES ☐ NO ☒

COMMENT: No duplicate sample was prepared for the sample event, this was addressed as an area of concern in the report.

9. Sample preservation procedures: [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. Are all samples refrigerated or cooled immediately after sampling? N/A ☐ YES ☒ NO ☐

b. Are samples for metals/radioactivity analysis acidified to pH <2 with HNO₃? N/A ☒ YES ☐ NO

c. Are samples for the following analyses acidified to pH <2 with H₂SO₄:
total phenolics; oil and grease; nitrate/nitrite; other? N/A ☐ YES ☒ NO

Describe other:

d. Is the sample for TOC analysis acidified to pH <2 with HCl or H₂SO₄? N/A ☒ YES ☐ NO

e. Is the sample for TOX analysis preserved with 1 ml of 1.1 M sodium sulfite? N/A ☒ YES ☐ NO

f. Is the sample for cyanide analysis preserved with NaOH to pH > 12? N/A ☒ YES ☐ NO

g. Are samples preserved in the field at the time of sampling?

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

N/A ☒ YES ☐ NO

If no, describe: All sample containers are prepared with the appropriate preservative at the offsite laboratory prior to sampling.

h. Describe any different procedures used, or required, not covered in the above items: N/A

10. Special handling considerations [335.116(a) / 265.90(a) & 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. Are organic samples handled without filtration? N/A ☐ YES ☒ NO

b. Are samples for volatile organics analysis collected such that all headspace over the sample is eliminated? N/A ☐ YES ☒ NO

c. If samples are analyzed for dissolved metals:

i. Are they filtered prior to preservation in the field with HNO₃ to pH<2; or N/A ☒ YES ☐ NO

ii. Are they not preserved in the field and filtered in the lab? N/A ☒ YES ☐ NO

ii. If the sample is to be analyzed for total metals, is it unfiltered and preserved with HNO₃ to pH<2? N/A ☒ YES ☐ NO

Section D -- REVIEW OF CHAIN-OF-CUSTODY PROCEDURES

1. Sample labels [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. Are sample labels used? YES ☒ NO

b. Do they provide the following information:

i. Sample identification number? YES ☒ NO

ii. Name of collector? YES ☒ NO

iii. Date and time of collection? YES ☒ NO

iv. Place of collection? YES ☒ NO

v. Parameter(s) requested for analysis? YES ☒ NO

c. Do they remain legible even when wet? YES ☒ NO

2. Sample seals [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. Are sample seals placed on each shipping container or individual sample bottle to ensure that samples are not altered? YES ☒ NO

3. Review the operator's field log book. Does it document all aspects of the sampling event? YES ☐ NO ☒

COMMENT: The Field note sheets used by the samplers were partially completed. This was addressed as an alleged violation section of the report. See Attachment 11.

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

4. Chain-of-custody record / sample analysis request sheet [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)],

- | | | |
|-------|--|--|
| a. | Is a chain-of-custody record prepared for each sample? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| b. | Does it document the following: | |
| i. | Sample number? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| ii. | Signature of collector? | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| iii. | Date and time of collection? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| iv. | Sample type? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| v. | Identification of well? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| vi. | Number of containers? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| vii. | Parameters requested? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| viii. | Preservatives used? | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| ix. | Signatures of persons involved in the chain-of-possession? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| x. | Inclusive dates of possession? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| xi. | Laboratory sample number (if different than field number)? | N/A <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> |

COMMENT: The COC included as Attachment 5 to this report contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples. This was addressed as an area of concern in the report.

- c. Include example of chain-of-custody form or tag as **Attachment 5**.

Section E -- REVIEW OF ANALYTICAL PROCEDURES

1. From the Sampling and Analysis Plan, include a tabulation of analytical methods used for Groundwater samples as **Attachment 7**. Indicate directly on the Attachment which analyses are performed at: off-site contract laboratory (*); on-site operator laboratory (**); field measurement (***).

COMMENT: No SAP was found for the facility.

2. Laboratory analysis procedures [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

- | | | |
|----|--|---|
| a. | Are all samples analyzed using an EPA-recommended method (SW-846 or other EPA recommended procedures)? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| b. | Are appropriate QA/QC measures used in laboratory analysis (e.g., blanks, spikes, standards)? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |
| c. | Are detection limits and percent recovery (if applicable) provided for each parameter? | YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> |

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

- d. If a different analytical method or laboratory is used, are split samples run for comparison purposes?
N/A ☒ YES ☐
NO ☐
- e. Describe any data inconsistencies and how the operator has tried to resolve them: N/A
- f. Are samples analyzed within specified holding times?
YES ☒ NO ☐
- g. What is the sample analysis turn-around time (i.e., the time required to receive analytical results from the laboratory)? Less than four weeks
- h. Example of analytical results and/or QA/QC results as reported by the laboratory to the operator -
3. Laboratory logbook
[335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]
(Delete if N/A) N/A ☒

Section F -- REVIEW OF QUALITY ASSURANCE/QUALITY CONTROL

[335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

1. Does the QA/QC program include:
- a. Documentation of any deviations from approved procedures
YES ☒
NO ☐
- b. Collection and analysis of trip blanks, field blanks and equipment blanks?
YES ☐ NO ☒
- COMMENT: No field blank was taken, This is addressed as an area of concern in the report.
- c. Documentation of analytical results for:
- i. Laboratory blanks?
YES ☒
NO ☐
- ii. Standards?
YES ☒
NO ☐
- iii. Duplicates?
YES ☒
NO ☐
- iv. Other (specify) _____ N/A ☒ YES ☐ NO ☐
2. Are field QC samples compared with field sample results?
(NOTE: If concentrations in blanks are greater by an order of magnitude than the field samples, then resampling is recommended.)
YES ☒
NO ☐
3. Does the operator critically examine the results to ensure that they have been properly calculated and reported?
YES ☒ NO ☐

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

4. Is the validity and reliability of the laboratory and field generated data ensured by a QA/QC program? YES ☒ NO ☐

Section G -- RECORD-KEEPING AND RESPONSE

1. Interim Status Detection Monitoring N/A ☒
2. Interim Status Assessment Monitoring N/A ☒
3. Permitted Status Detection Monitoring N/A ☒
4. Permitted Status Compliance Monitoring N/A ☒
5. Permitted Status Corrective Action Program N/A ☐
(Delete Section G.5., if N/A)

- a. If a corrective action program is required by the permit/compliance plan, is the facility compliant with all requirements of the corrective action program as specified in the permit/compliance plan, including the following:

- i. Are RCRA Units in compliance with the ground water protection standard (GWPS), beyond the point of compliance? N/A ☐ YES ☐ NO ☒

COMMENT: See comment under section C.3.a.ii above.

- ii. Does the corrective action program prevent hazardous constituents from exceeding their respective concentration limits? N/A ☐ YES ☐ NO ☒

COMMENT: See comment under section C.3.a.ii above.

- iii. Did the facility begin corrective action within a reasonable time after the GWPS was exceeded? N/A ☐ YES ☐ NO ☒

COMMENT: See comment under section C.3.a.ii above.

- iv. Has a ground water monitoring program been implemented to demonstrate the effectiveness of the corrective action program? N/A ☐ YES ☒ NO ☐

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

**CME INSPECTION REPORT
SAMPLE ANALYSES RESULTS CHECKLIST**Facility Name: Safety-Kleen Systems, Missouri City Facility
Date Sampled: May 29, 2003**Section A -- Analytical Results**

Two wells were selected to be co-sampled with the contract personnel retained by SK, wells MW-1, and MW-2. The wells were selected as down gradient wells in the uppermost aquifer. The sampling was conducted on May 29, 2003. The TCEQ analysis consisted of Volatile Organic Compounds VOC, by method 8260B, and total RCRA metals (unfiltered) via method 6010B, and 7470A for mercury. The facility's analysis consisted of nitrate and sulfate by method 9056, and chlorobenzene and xylene by method 8260B. The facility and agency sample analysis compared favorably for wells MW-1 and MW-2, with the Agency's analysis showing chlorobenzene in well WM-2 of 10.4 parts per billion (ug/l), and the facility's analysis for the wells showing 13 ug/l. The facility is conducting monitored natural attenuation under the compliance plan. Current concentrations were compared to historic concentration for the monitoring wells from the initiation of MNA (September 30, 1998), **See Attachment 4**. Well MW-3 first detected chlorobenzene on May 24, 2002. The well has detected increasing concentrations of the constituent for the last three sampling events. Well MW-2 had non detects for chlorobenzene for the last two sampling events, but detected chlorobenzene on the current sampling event. Wells MW-8, and MW-9 may also show increasing levels of chlorobenzene from the date that active groundwater remediation ceased. The increasing levels of chlorobenzene in the wells, and the fact that no well exists between either well MW-2 or MW-3 and the facility's property line is addressed in the alleged violations section of this report.

The facility's Chain of Custody (COC) forms and sample analysis results are included as **Attachment 5**. TCEQ COC forms, and sample analysis results are included as **Attachment 4**.

1. Include analytical results of TCEQ samples as **Attachment 4**.
2. Include copies of Chain of Custody Tags for TCEQ samples as **Attachment 4**.
3. Include Facility Operator analytical results and a summary as **Attachment 5**.
4. Include copies of Chain of Custody Tags for Facility Operator samples as **Attachment 5**.

Section B -- Comparison of Analytical Results

1. Do TCEQ results confirm operators results? NA ___ YES ☒ NO ___
If NO, describe apparent discrepancies between data sets and discuss possible sources of error.
2. Compare data sets to historical results. Note any parameters which do not occur within previously observed ranges.
COMMENT: See comment under Section A. above.

*** An entry in this column indicates corrective action or comment is needed.

TNRCC Region 12 TNRCC Registration No. 71144 Inspection Date May 29, 2003

3. Releases to ground water, for WMUs under detection monitoring: N/A ☒
4. Releases to ground water, for WMUs under assessment monitoring: N/A ☒
- a. Were increases in hazardous constituents or indicators of hazardous constituents detected by TCEQ sample analysis? N/A ☒ NO ☐ YES ☐
If YES, identify unit and constituents.
- b. Has operator detected increases in hazardous constituents or indicators of hazardous constituents in the ground-water? N/A ☐ NO ☐ YES ☒
If YES, identify unit and constituents.

COMMENT: Chlorobenzene from permit Unit AA.

5. Releases to ground water, for WMUs under compliance monitoring:
- a. Was the ground water protection standard exceeded in the TCEQ sample analysis? N/A ☐ NO ☐ YES ☒
Comment: Yes, See **Attachment 4 for TCEQ sample analysis results.**

- b. Was the ground water protection standard exceeded in the operator's sample analysis? N/A ☐ NO ☐ YES ☒

COMMENT: Yes, see comment a. above.

*** An entry in this column indicates corrective action or comment is needed.

TCEQ
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CORRESPONDENCE

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Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*

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CO

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

December 16, 2010

Mr. Bob Schoepke.
Senior Project Manager,
Safety-Kleen Systems, Inc.
1502 E. Villa St, 2nd Floor
Elgin, IL 60120

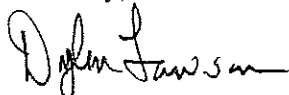
Re: Approval of *Request for Plugging and Abandonment of Monitoring Well MW-12*, dated September 20, 2010
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. CP - 50236
EPA ID No. TXD010803203
CN No. 600128128/RN No. 100717677

Dear Mr. Schoepke:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced request to plug and abandon (P&A) monitoring well MW-12, dated September 20, 2010. As indicated in the report, due to its location (within 20 feet of two other wells which are screened in the same groundwater bearing unit) MW-12 is not necessary to monitor the extent of impacted groundwater in this area of the facility. Please submit a report documenting the plugging and abandonment of monitoring well MW-12 within 60 days from the date of this letter.

Please note that Mr. Charles Brigance is not the Project Manager for this site. An original and one copy of future reports should be submitted to me at the letterhead address using Mail Code MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location and identification numbers in the reference line above should be included with the report. Questions concerning this letter should be directed to me at (512) 239-0507. Please use Mail Code MC-127 when responding by mail.

Sincerely,



Dylan Lawson, Project Manager
Corrective Action Team 1, VCP-CA Section
Remediation Division

DL/jdm

cc: Ms. Nicole Bealle, Waste Program Manager, TCEQ Region 12 Office, Houston

RECEIVED
DEC 21 2010
TCEQ
CENTRAL FILE ROOM

HW 71144-CO

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 13, 2010

RECEIVED

OCT 27 2010

TCEQ
CENTRAL FILE ROOM

Mr. Bob Schoepke.
Senior Project Manager,
Safety-Kleen Systems, Inc.
1502 E. Villa St, 2nd Floor
Elgin, IL 60120

Re: Approval of *Semi-annual Ground Report, January to June 2010*, dated July 16, 2010
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. CP - 50236
EPA ID No. TXD010803203
CN No. 600128128/RN No. 100717677

Dear Mr. Schoepke:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced report dated July 16, 2010. The report generally fulfills the reporting requirements of Section VII.C.2 of the above referenced compliance plan.

An original and one copy of future reports should be submitted to the Remediation Division at the letterhead address using Mail Code MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location and identification numbers in the reference line above should be included with the report. Questions concerning this letter should be directed to me at (512) 239-0507. Please use Mail Code MC-127 when responding by mail.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dylan Lawson".

Dylan Lawson, Project Manager
Corrective Action Team 1, VCP-CA Section
Remediation Division

DL/jdm

cc: Ms. Nicole Bealle, Waste Program Manager, TCEQ Region 12 Office, Houston



IHW 71144 CO

CERTIFIED MAIL – 7008 1830 0004 5093 5441
RETURN RECEIPT REQUESTED

April 29, 2010

Mr. Matthew Southard
Registration, Review & Reporting Division
Registration & Reporting Section (MC-129)
Texas Conservation on Environmental Quality
PO Box 13087
Austin, TX 78711-3087

RE: Safety-Kleen Systems, Inc.
1580 Industrial Dr.
Missouri City TX 77489

Solid Waste Registration No. 71144
EPA ID. No. TXD010803203
Hazardous Waste Permit No. HW-50236

RECEIVED

OCT 12 2010

ICEQ
CENTRAL FILE ROOM

UNMANIFESTED WASTE REPORT

Dear Mr. Southard:

Please accept this letter as our written report of an unmanifested waste from the Safety-Kleen System, Inc. Missouri City, Texas facility. This report follows the sequence of requested information in 40 CFR 264.76.

A: Safety-Kleen Systems, Inc.
158 Industrial Dr.
Missouri City TX 77489
EPA ID No. TXD010803203

B: The dates the facility received the waste:

05/21/08 (7 Gallons), 8/12/08 (8 Gallons), 11/05/08 (8 Gallons),
01/28/09 (7 Gallons), 04/21/09 (7 Gallons), 07/15/09 (8 Gallons),
10/08/09 (8 Gallons), 01/05/10 (7 Gallons) and 03/22/10 (7 Gallons)

NAT
Send
To
File

1580 Industrial Dr.
Missouri City TX 77489
(281) 208-6500
Fax (281) 208-6510

9-27-10

11-117
JH
IHW-11-117 Des
9-14-2010



Page -2-
Letter to TCEQ Dated 04/29/10

C: Generator: TECEMET
 6025 Genoa Red Bluff Rd.
 Pasadena TX 77507

D: Description and quantity of the unmanifested waste shipped on hand-held receipt shipping documents of a Hazardous Waste Manifest

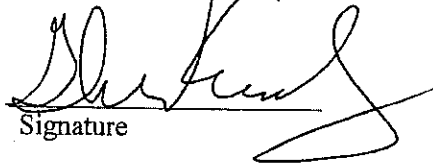
a: WASTE COMBUSTIBLE LIQUID, N.O.S.
 (PETROLEUM NAPHTHA) NA1993 PGII
 (D001, D018, D039, D040) (ERG #128)

71 gallons (total for all nine shipments)

E: The method of treatment, storage, or disposal of the unmanifested waste.

A: H021

F: Certificate signed by the facility owner or operator or designated representative:


Signature

4/29/10
Date

G: A brief description of why the waste was shipped without a manifest, if known:

The generator contacted the branch today to notify us that their generator status has been "Small Quantity Generator (SQG)" and therefore, requiring the use of a hazardous waste manifest.

If you have any questions or need additional information, please contact me at (210) 648-7066.

Sincerely,



Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager

CC: TECEMET

1580 Industrial Dr.
Missouri City TX 77489
(281) 208-6500
Fax (281) 208-6510



IHW 71144 CO

CERTIFIED MAIL – 7008 1830 0004 5093 5441
RETURN RECEIPT REQUESTED

April 29, 2010

Mr. Matthew Southard
Registration, Review & Reporting Division
Registration & Reporting Section (MC-129)
Texas Conservation on Environmental Quality
PO Box 13087
Austin, TX 78711-3087

RE: Safety-Kleen Systems, Inc.
1580 Industrial Dr.
Missouri City TX 77489

Solid Waste Registration No. 71144
EPA ID. No. TXD010803203
Hazardous Waste Permit No. HW-50236

UNMANIFESTED WASTE REPORT

Dear Mr. Southard:

Please accept this letter as our written report of an unmanifested waste from the Safety-Kleen System, Inc. Missouri City, Texas facility. This report follows the sequence of requested information in 40 CFR 264.76.

A: Safety-Kleen Systems, Inc.
158 Industrial Dr.
Missouri City TX 77489
EPA ID No. TXD010803203

B: The dates the facility received the waste:

05/21/08 (7 Gallons), 8/12/08 (8 Gallons), 11/05/08 (8 Gallons),
01/28/09 (7 Gallons), 04/21/09 (7 Gallons), 07/15/09 (8 Gallons),
10/08/09 (8 Gallons), 01/05/10 (7 Gallons) and 03/22/10 (7 Gallons)

NAT
Send
To
File

1580 Industrial Dr.
Missouri City TX 77489
(281) 208-6500
Fax (281) 208-6510

9-27-10



Page -2-
Letter to TCEQ Dated 04/29/10

C: Generator: TECHEMET
 6025 Genoa Red Bluff Rd.
 Pasadena TX 77507

D: Description and quantity of the unmanifested waste shipped on hand-held receipt
shipping documents of a Hazardous Waste Manifest

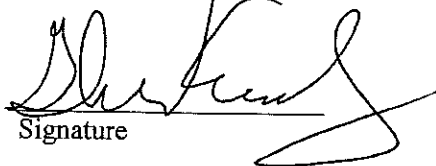
a: WASTE COMBUSTIBLE LIQUID, N.O.S.
 (PETROLEUM NAPHTHA) NA1993 PGII
 (D001, D018, D039, D040) (ERG #128)

71 gallons (total for all nine shipments)

E: The method of treatment, storage, or disposal of the unmanifested waste.

A: H021

F: Certificate signed by the facility owner or operator or designated representative:


Signature

4/29/10
Date

G: A brief description of why the waste was shipped without a manifest, if
known:

The generator contacted the branch today to notify us that their generator status has
been "Small Quantity Generator (SQG)" and therefore, requiring the use of a hazardous
waste manifest.

If you have any questions or need additional information, please contact me at
(210) 648-7066.

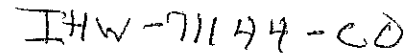
Sincerely,



Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager

CC: TECHEMET

1580 Industrial Dr.
Missouri City TX 77489
(281) 208-6500
Fax (281) 208-6510



7-9-20 THS-Med Des



Page -2-

Letter to TCEQ Dated 06/29/10

D: Description and quantity of the unmanifested waste shipped on hand-held receipt shipping documents of a Hazardous Waste Manifest

a: WASTE COMBUSTIBLE LIQUID, N.O.S.
(PETROLEUM NAPHTHA) NA 1993 PGII
(D001, D018, D039, D040) (ERG # 128)

7 Gallons

E: The method of treatment, storage, or disposal of the unmanifested waste.

A: H021

F: Certificate signed by the facility owner or operator or designated representative:

Signature

06/29/2010

Date

G: A brief description of why the waste was shipped without a manifest, if known:

The generator was coded by Safety-Kleen as Conditionally Exempt Small Quantity Generator (CESQG) when in fact the generator is a Small Quantity Generator (SQG) and therefore, requiring a hazardous waste manifest.

If you have any questions or need additional information, please contact me at (210) 648-0744.

Sincerely,

Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager

CC: TECHEMET



IHW 71144 CO

CERTIFIED MAIL – 7008 1830 0004 5093 5441
RETURN RECEIPT REQUESTED

April 29, 2010

Mr. Matthew Southard
Registration, Review & Reporting Division
Registration & Reporting Section (MC-129)
Texas Conservation on Environmental Quality
PO Box 13087
Austin, TX 78711-3087

RECEIVED

JUL 27 2010

TOBO
CENTRAL FILE ROOM

RE: Safety-Kleen Systems, Inc.
1580 Industrial Dr.
Missouri City TX 77489

Solid Waste Registration No. 71144
EPA ID. No. TXD010803203
Hazardous Waste Permit No. HW-50236

UNMANIFESTED WASTE REPORT

Dear Mr. Southard:

Please accept this letter as our written report of an unmanifested waste from the Safety-Kleen System, Inc. Missouri City, Texas facility. This report follows the sequence of requested information in 40 CFR 264.76.

A: Safety-Kleen Systems, Inc.
158 Industrial Dr.
Missouri City TX 77489
EPA ID No. TXD010803203

RECEIVED B: The dates the facility received the waste:

MAY 04 2010

REGISTRATION
& REPORTING

RECEIVED

MAY 04 2010

REGISTRATION
& REPORTING

05/21/08 (7 Gallons), 8/12/08 (8 Gallons), 11/05/08 (8 Gallons),
01/28/09 (7 Gallons), 04/21/09 (7 Gallons), 07/15/09 (8 Gallons),
10/08/09 (8 Gallons), 01/05/10 (7 Gallons) and 03/22/10 (7 Gallons)

1580 Industrial Dr.
Missouri City TX 77489
(281) 208-6500
Fax (281) 208-6510

*fin.
NAR - Filed
6-8-10
Copy to Region
TB*

*10-2954
TB
IHW - Manifest Des
5-10-2010*



Page -2-
Letter to TCEQ Dated 04/29/10

C: Generator: TECHEMET
 6025 Genoa Red Bluff Rd.
 Pasadena TX 77507

D: Description and quantity of the unmanifested waste shipped on hand-held receipt shipping documents of a Hazardous Waste Manifest

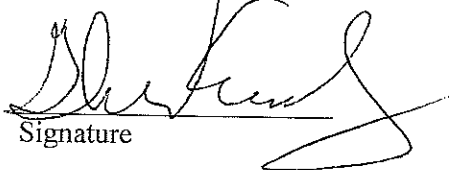
a: WASTE COMBUSTIBLE LIQUID, N.O.S.
 (PETROLEUM NAPHTHA) NA1993 PGII
 (D001, D018, D039, D040) (ERG #128)

71 gallons (total for all nine shipments)

E: The method of treatment, storage, or disposal of the unmanifested waste.

A: H021

F: Certificate signed by the facility owner or operator or designated representative:


Signature

4/29/10
Date

G: A brief description of why the waste was shipped without a manifest, if known:

The generator contacted the branch today to notify us that their generator status has been "Small Quantity Generator (SQG)" and therefore, requiring the use of a hazardous waste manifest.

If you have any questions or need additional information, please contact me at (210) 648-7066.

Sincerely,



Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager

CC: TECHEMET

1580 Industrial Dr.
Missouri City TX 77489
(281) 208-6500
Fax (281) 208-6510

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



14W 71144-CO

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 26, 2010

RECEIVED

JUN 03 2010

TCEQ
CENTRAL FILE ROOM

Mr. Bob Schoepke.
Senior Project Manager,
Safety-Kleen Systems, Inc.
1502 E. Villa St, 2nd Floor
Elgin, IL 60120

Re: Approval of *Semi-annual Ground Report, July to December 2009*, dated January 21, 2010
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City TCEQ
SWR No. 71144
TCEQ Compliance Plan No. CP - 50236
EPA ID No. TXD010803203
CN No. 600128128/RN No. 100717677

Dear Mr. Schoepke:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced report dated January 21, 2010. The report generally fulfills the reporting requirements of Section VII.C.2 of the above referenced compliance plan.

An original and one copy of future reports should be submitted to the Remediation Division at the letterhead address using Mail Code MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location and identification numbers in the reference line above should be included with the report. Questions concerning this letter should be directed to me at (512) 239-0507. Please use Mail Code MC-127 when responding by mail.

Sincerely,

A handwritten signature in black ink, appearing to read "Dylan Lawson".

Dylan Lawson, Project Manager
Corrective Action Team 1, VCP-CA Section
Remediation Division

DL/jdm

cc: Ms. Nicole Bealle, Waste Program Manager, TCEQ Region 12 Office, Houston

ALL
DOCUMENTS
BEHIND
THIS PAGE
ARE FOR
YEAR
2009

2009 BEHIND THIS PAGE

rCEQ Complaint Report

03/02/2010
1:37:46PM

Incident No: 130519
Media Type: Waste
Start Date: Unknown
Received Date: 10/05/2009
Method : PHONE

Staff Member: KJIMISON
Status: Closed
Status Date: 03/02/2010
Priority: Within 30 Calendar Days

Regulated Entity: Safety-Kleen Missouri City 6 073 02
RN100717677

Address: 1580 Industrial Dr
Missouri City, Fort Bend County, TX 77489
Physical Location: 1580 Industrial Rd, Missouri City, TX

Responsible Party: Safety-Kleen Systems Inc
Address: 1580 Industrial Dr, Missouri City, TX 77489
Work Phone: (281)208-6500

Title: Branch General Manager

Number Complaining: 1
Frequency: Current
Alleged Source: Safety-Kleen Missouri City 6 073 02

Program Group: Industrial &
Hazardous Waste - High Level

Nature: Industrial
Effect: Environmental

Initial Problem

The Complainant alleges the facility is pumping oily water from the sump located at the back of the property across the fence onto the ground.

Action Taken

On November 3, 2009, a complaint investigation was conducted at Safety Kleen Missouri City. Details of the complaint investigation are found in investigation number 785407.

Closure Comments

Based on the complaint investigation, the allegation that Safety Kleen discharged oily water onto the ground was unconfirmed.

Investigation #: 785407

Texas Commission on Environmental Quality
Investigation Report
SAFETY-KLEEN SYSTEMS INC
CN600128128

SAFETY-KLEEN MISSOURI CITY 6 073 02

RN100717677

Investigation # 785407

Incident # 130519

Investigator: KENDRA JIMISON

Site Classification

IHW TRANSPORTER
 LARGE QUANTITY GENERATOR
 CONTAINER STORAGE AREA
 TANK (SURFACE)
 MISCELLANEOUS STORAGE
 CONTAINERS
 TRANSFER FACILITY

Conducted: 11/03/2009 -- 02/26/2010

SIC Code: 7389

NAIC Code: 532299

Program(s): INDUSTRIAL AND
 HAZARDOUS WASTE
 STORAGE
 INDUSTRIAL AND
 HAZARDOUS WASTE
 GENERATION
 INDUSTRIAL AND
 HAZARDOUS WASTE
 TRANSPORTATION

Investigation Type : Compliance Investigation

Location : 1580 Industrial Rd, Missouri City, TX

Additional ID(s) : 50236
 TXD010803203
 71144

Address: 1580 INDUSTRIAL DR;
 MISSOURI CITY, TX 77489

Activity Type : REGION 12 - HOUSTON
 IHWCMP - Complaint investigation

Principal(s) :

Role	Name
RESPONDENT	SAFETY-KLEEN SYSTEMS INC

Contact(s) :

Role	Title	Name	Phone
Regulated Entity Contact	ENVIRONMENTAL, HEALTH & SAFETY MANAGER	MR RICARDO	Cell (210) 241-2619
		SAUCEDO PE	Work (210) 648-7066
Regulated Entity Mail Contact	ENVIRONMENTAL HEALT & SAFETY MANAGER	MR RICARDO SAUCEDO	Work (210) 648-7066
Participated in investigation	BRANCH GENERAL MANAGER	MR GLENN KENNEDY	Work (281) 208-6500

Other Staff Member(s) :

Role	Name
Supervisor	CARLOS ROMO
QA Reviewer	ARON ATHAVALLEY

Associated Check List**Checklist Name**
IHW COMPLAINT**Unit Name**
Complaint Checklist**Investigation Comments :**

Safety-Kleen Missouri City
1580 Industrial Drive
Missouri City (Fort Bend County), Texas 77459
TCEQ SWR ID NO: 71144, TCEQ PERMIT NO: 50236, EPA ID NO: TXD010803203
IHW - Complaint Investigation
Investigation Date: November 3, 2009

INTRODUCTION

On October 5, 2009, the Texas Commission on Environmental Quality (TCEQ) Houston Regional Office received a complaint against Safety-Kleen Missouri City (SK). The complaint alleged that SK was pumping oily water from the sump located at the back of the property across the fence onto the ground. The complaint was assigned the TCEQ incident tracking No. 147178 and the investigation number 785407. 130519

GENERAL FACILITY INFORMATION

SK is located at 1580 Industrial road, Missouri City (Fort Bend County), Texas 77459. The facility's site and location maps are included in Attachment 1. Safety-Kleen Missouri City is owned and operated by Safety-Kleen Systems Inc. The facility has been in operation at the location since 1975 on a two-acre tract of land. The location is in drainage segment 1102 of the San Jacinto-Brazos Coastal Basin. Land use in the area is mixed industrial, commercial and residential. The facility operates Monday through Friday and employs approximately 49 employees.

SK operates under solid waste registration no. 71144 and hazardous waste permit no. 50236. The hazardous waste permit authorizes SK to store hazardous waste onsite for more than 90 days. The Notice of Registration (NOR) identifies the facility as an industrial large quantity generator (LQG) of hazardous waste, as well as a transporter and transfer facility. The site also has a storm-water permit #TXR05K198, and an air permit #FG0176M. The facility's current authorizations are detailed in the TCEQ Core Data Form (Attachment 2).

SK is a commercial storage and handling facility which provides spent solvent recycling and waste management services primarily to small businesses. The facility is authorized to manage the following industrial solid wastes; spent mineral spirits, spent carburetor cleaner, dry cleaner waste, dumpster sediment, tank bottom sediment, immersion cleaner, paint waste, and chlorinated solvents.

BACKGROUND

The Houston Region Office files were reviewed pursuant to this complaint investigation. The most recent industrial hazardous waste investigation was conducted on August 3, 2009. Some concerns were noted as alleged violations during the investigation; however, they were subsequently resolved. SK has no unresolved alleged violations at this time.

ADDITIONAL INFORMATION

Investigation

On November 3, 2009, Ms. Kendra Jimison, investigator with TCEQ Houston Region 12 Office, conducted an unannounced complaint investigation of SK. The investigator met with Mr. Glenn Kennedy, branch general manager. The purpose and scope of the complaint investigation were explained. The complaint investigation included an opening interview, a site inspection, and a records review.

Regarding the complaint allegation, the facility representative stated that there is a storm water sump in the parking lot on the northeast side of the property. The parking lot is graded to drain into this sump area. Storm water that drains into the sump is pumped across the fence onto the ground within the SK property. The water that is pumped across the fence is "noncontact storm water" as it does not come into contact with the facility's processes. The water is visually inspected and if it appears to have a sheen, from oil drips from the transporting vehicles, the water is pumped from the sump into vacuum trucks with other oily water for off-site disposal. The facility's storm water management is authorized by the storm water permit # TXR05K198.

The storm water sump, located in the north east parking lot area, was visually inspected. The sump did not contain any standing water but did contain some mud and leaves. Facility personnel measured the sump to be 24" x 24" x 18", which was documented in photographs (Attachment 3) submitted by Mr. Glenn Kennedy on February 26, 2010. There was a hose in the sump that extended over the fence onto the ground. The SK storm water permit, no. TXR05K198, was reviewed. The permit described storm water management as follows: "The Safety-Kleen storm water pollution prevention practices emphasize preventing COCs [chemicals of concern] from coming into contact with storm water. Water which collects in the aboveground storage secondary containment is visually inspected for a sheen before being pumped out. If a sheen is present, the water is containerized and taken offsite for treatment." Although the permit provision does not address the sump in the parking lot, the facility representative stated that the same procedure is followed for the sump. Additionally, as a part of the storm water permit, SK is required to conduct bi-annual sampling of storm water at several locations inside and around the facility, which is regulated by the TCEQ Water Section.

SUMMARY OF INVESTIGATION FINDINGS

CONCLUSION

Based on the investigation conducted and the information obtained, there is insufficient evidence to confirm the allegation that SK discharged oily water onto the ground. No standing oily water was observed in the sump or being pumped out of the sump.

No concerns were noted during this investigation.

No Violations Associated to this Investigation

Signed Kendrea J. Limison
Environmental Investigator

Date 3/22/10

Signed Carlos R. Rouse
Supervisor

Date 3/22/2010

Attachments: (in order of final report submittal)

☐ Enforcement Action Request (EAR)

☒ Letter to Facility (specify type) : G.C. Ltr.

☐ Investigation Report

☐ Sample Analysis Results

☐ Manifests

☐ NOR

1 Maps, Plans, Sketches

3 Photographs

☐ Correspondence from the facility

☒ Other (specify) :

2. TCEQ Core Data Form

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 22, 2010

Mr. Ricardo Saucedo, EHS Manager
Safety-Kleen Systems Inc.
5243 Sinclair Road
San Antonio, TX 78222

Re: Complaint Response from this Office on November 3, 2009 to:
Safety-Kleen Missouri City 6 073 02, 1580 Industrial Drive, Missouri City (Fort Bend County),
Texas 77489
TCEQ SWR No.: 71144, Permit No.: 50236, EPA ID No.: TXD010803203
Incident No.: 130519

Dear Mr. Saucedo:

The Houston Region Office of the Texas Commission on Environmental (TCEQ) received a request for assistance on October 5, 2009. In response to this request, Ms. Kendra Jimison, Solid Waste Section, of this office conducted a complaint investigation on November 3, 2009.

The enclosed report describes the findings that were noted during the complaint investigation.

The TCEQ appreciates your interest in protecting the quality of our environment. If you have any questions concerning these findings, or if we can be of further assistance, please contact Ms. Jimison at this office (713)767-3763.

Sincerely,

A handwritten signature in cursive script, appearing to read "Carlos R. Romo".

Carlos R. Romo, Work Leader
Waste Section
Houston Region Office

CRR/ASA/na

Enclosure(s): Investigation Report

cc: Mr. Glenn Kennedy, Branch General Manager, 1580 Industrial Road, Missouri City, TX 77489

**Safety-Kleen Missouri City
1580 Industrial Drive
Missouri City (Fort Bend County), Texas 77459
TCEQ SWR ID NO: 71144, EPA ID NO: TXD010803203
IHW – Complaint Investigation
Investigation Date: November 3, 2009**

LIST OF ATTACHMENTS

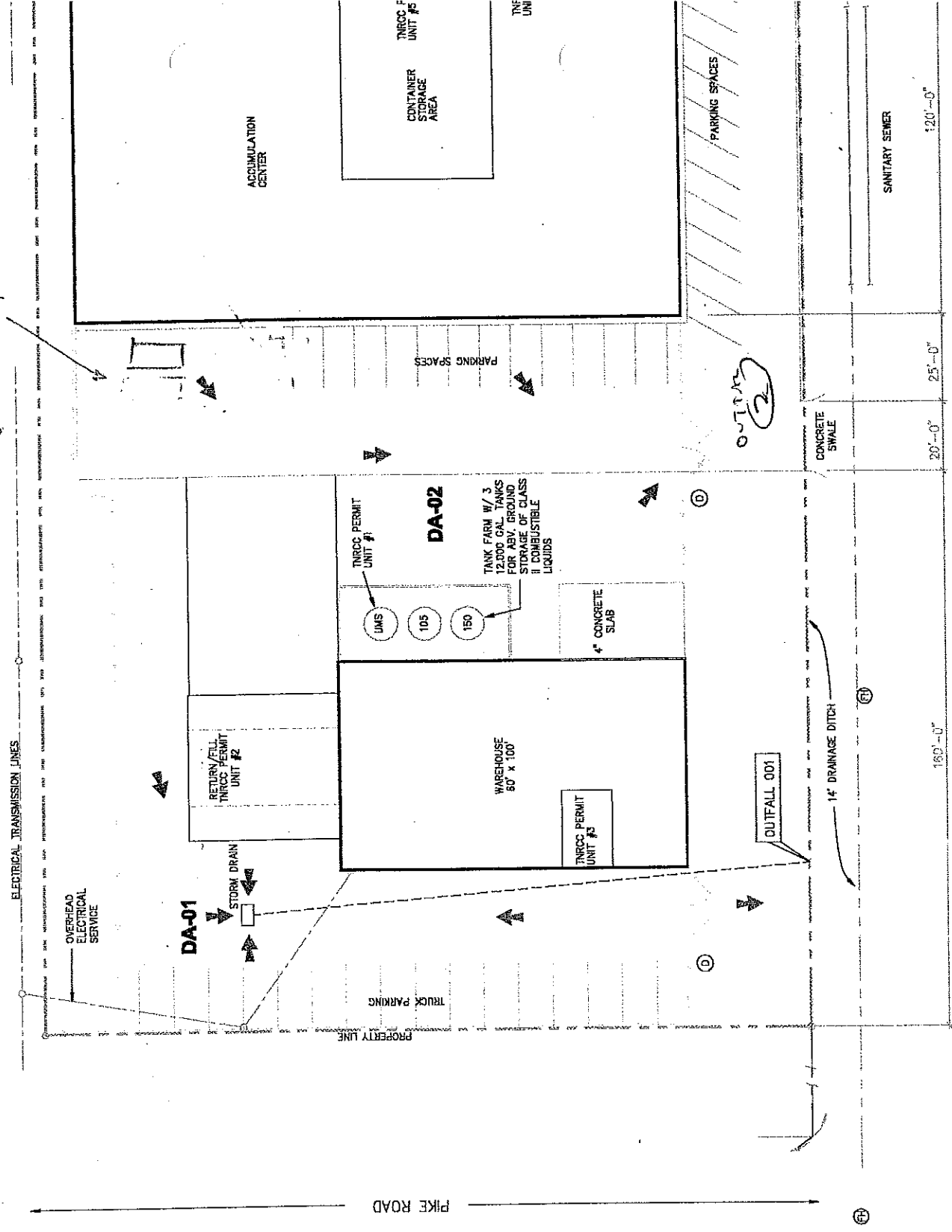
Attachment 1: Facility Site Location and Layout Maps

Attachment 2: TCEQ Core Data Form

Attachment 3: Photographs

ATTACHMENT 1

FRAC TANK

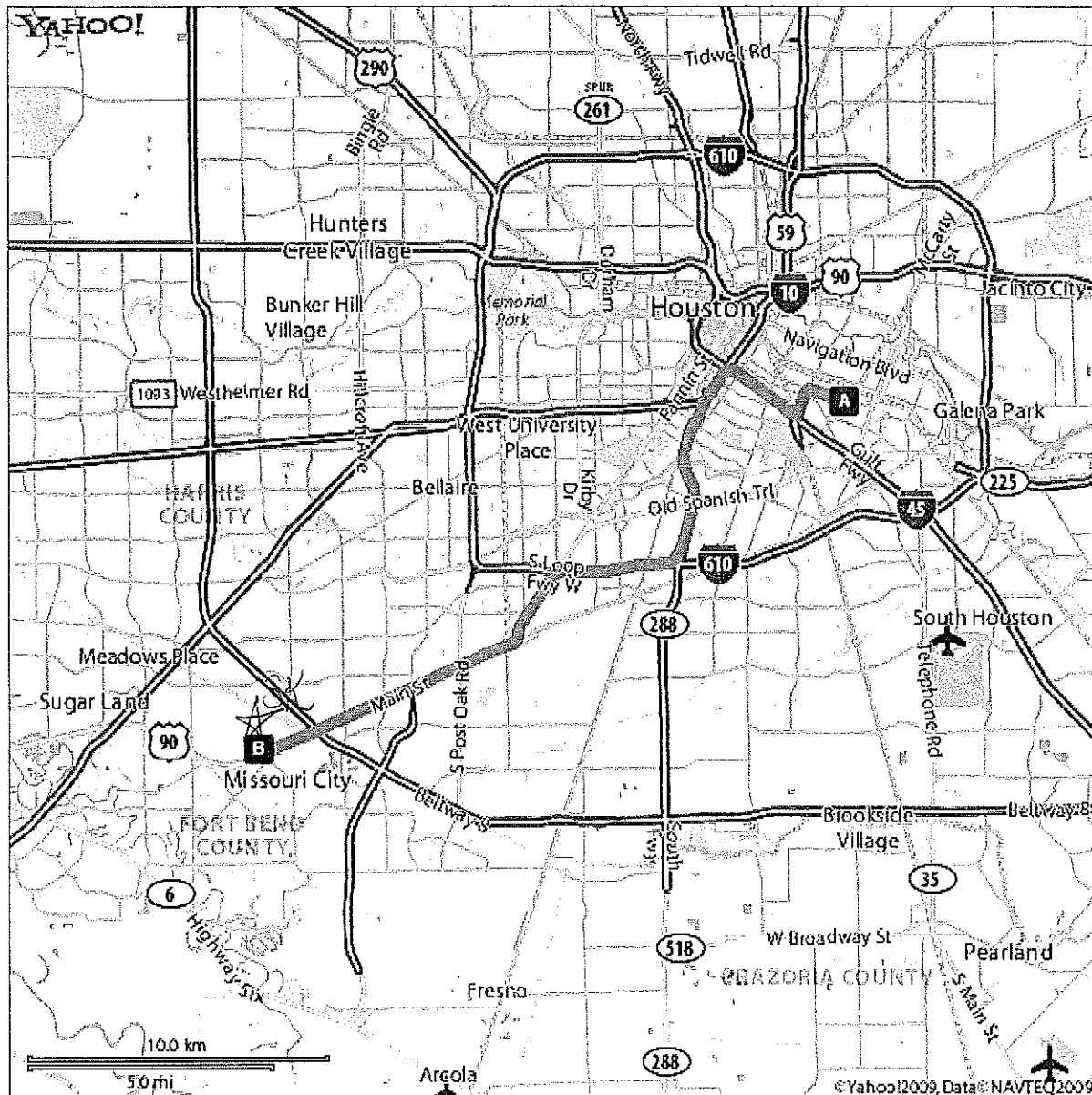


Safety-Kleen Missouri City, SWP# 71144

Directions to 1580 Industrial Dr, Missouri City, TX 77489-1007

YAHOO!

Total Time: 30 mins, Total Distance: 19.21 mi



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

ATTACHMENT 2



TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided) New Permit, Registration or Authorization (Core Data Form should be submitted with the program application) Renewal (Core Data Form should be submitted with the renewal form) Other	
2. Attachments Yes No	Describe Any Attachments: (ex: Title V Application, Waste Transporter Application, etc.)
3. Customer Reference Number (if issued) CN600128128	Follow this link to search for CN or RN numbers in Central Registry** 4. Regulated Entity Reference Number (if issued) RN100717677

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
6. Customer Role (Proposed or Actual) - as it relates to the Regulated Entity listed on this form. Please check only one o OWNER OPERATOR			
7. General Customer Information New Customer Update to Customer Information Change in Regulated Entity Ownership Change in Legal Name (Verifiable with the Texas Secretary of State) No Change** **If "No Change" and Section I is complete, skip to Section III - Regulated Entity Information.			
8. Type of Customer CORPORATION			
Customer Name (If an individual, please print last name first) SAFETY-KLEEN SYSTEMS INC			
9. Customer Legal Name (If an individual, print last name first: ex. Verified using Secretary of State : <input type="checkbox"/> Safety-Kleen Systems, Inc.			
10. Mailing Address: 5243 Sinclair Rd San Antonio, TX 78222-2209			
11. Country Mailing Information (if outside USA) USA	12. E-Mail Address (if applicable)		
13. Telephone Number (281) 208-6500 (281) 261-0221 (281) 208-6500	14. Extension or Co 15. Fax Number (if applicable) (281) 208-6510		
16. Federal Tax ID (9 digits) 396090019	17. TX State Franchise Tax ID (11 digits) 13960900192	18. DUNS Number (if applicable) 53976551	19. TX SOS Filing Number (if applicable)
20. Number of Employees 501+	21. Independently Owned and Operated? Y		

SECTION III: Regulated Entity Information

22. General Regulated Entity Information (If "New Regulated Entity" is selected below this form should be accompanied by a permit application) New Regulated Entity Update to Regulated Entity Name Update to Regulated Entity Information No			
---	--	--	--

23. Regulated Entity Name (name of the site where the regulated action is taking place)

SAFETY-KLEEN MISSOURI CITY 6 073 02

24. Street Address of the Regulated Entity: (No P.O. Boxes)1580 Industrial Dr
Missouri City, TX 77489**25. Mailing Address:**5243 Sinclair Rd
San Antonio, TX 78222
5243 Sinclair Rd
San Antonio, TX 78222**26. E-Mail Address:****27. Telephone Number**

(281) 499-9626

28. Extension or Co**29. Fax Number** (if applicable)

(281) 261-4542

30. Primary SIC Code (4)

7389

31. Secondary SIC Code (4 d

7359

32. Primary NAICS Code (5 or

532299

33. Secondary NAICS Code (5 c**34. What is the Primary Business of this entity?** (Please do not repeat the SIC or NAICS c

Not Elsewhere Classified

Not Elsewhere Classified

All Other Consumer Goods Rental

Questions 35 - 38 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:

1580 Industrial Rd, Missouri City, TX

36. Nearest City

Missouri City

County

Fort Bend

State

TX

Nearest ZIP Code

77459

37. Latitude (N) In Decimal: 29.62

Degrees	Minutes	Seconds
29	37	13

38. Longitude (W) In Decimal: -95.54

Degrees	Minutes	Seconds
95	32	20

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions forINDUSTRIAL AND HAZARDOUS WASTE GENERATION
INDUSTRIAL AND HAZARDOUS WASTE DISPOSAL
INDUSTRIAL AND HAZARDOUS WASTE STORAGE
PETROLEUM STORAGE TANK REGISTRATION
AIR NEW SOURCE PERMITS
USED OIL
STORMWATER
PETROLEUM STORAGE TANK STAGE II
INDUSTRIAL AND HAZARDOUS WASTE COMPLIANCE PLANS
IHW CORRECTIVE ACTION
INDUSTRIAL AND HAZARDOUS WASTE POST CLOSURE
INDUSTRIAL AND HAZARDOUS WASTE PROCESSING**Additional IDs:**

TXD010803203	IHWG	71144	IHWG
50236	IHWS	50236	IHWS
FG0176M	AIRNSR	51253	AIRNSR
A85239	USED OIL	TXD010803203	USED OIL
TXR05K198	STORM	50236	IHWCP

More IDs for this RN exist than can be displayed.

SECTION IV: Preparer Information

40. Name:			41. Title:
42. Telephone Number () -	43. Ext./Code	44. Fax Number () -	45. E-Mail Address

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

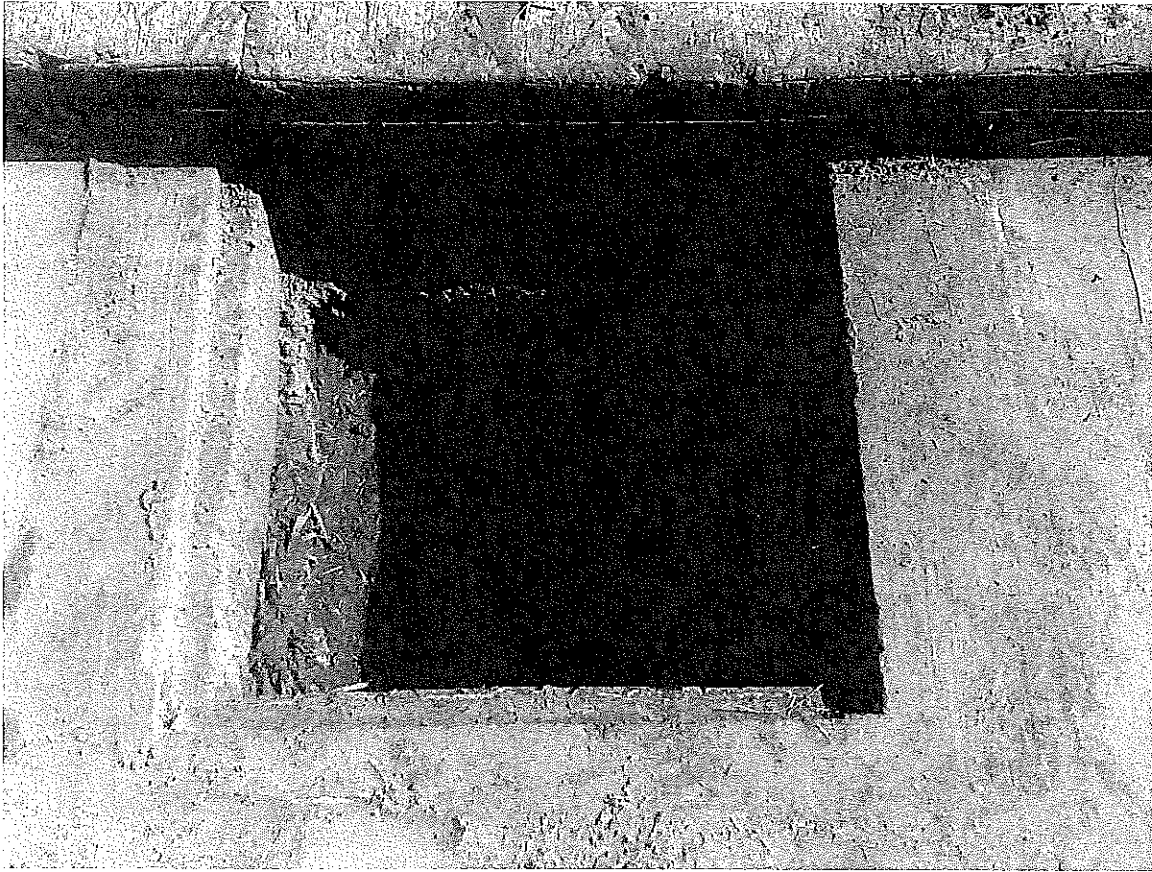
Company:	Job Title:
Name <i>(In Print)</i> :	Phone: () -
Signature:	Date:

ATTACHMENT 3

**Safety-Kleen Missouri City
1580 Industrial Drive
Missouri City (Fort Bend County), Texas 77459
TCEQ SWR ID NO: 71144, EPA ID NO: TXD010803203
IHW – Complaint Investigation
Investigation Date: November 3, 2009
Photographs provided by Mr. Glenn Kennedy, SK Manager 2/26/2010**



Photograph 1 of 2: Stormwater sump located in the northeast portion of parking lot



Photograph 2 of 2: Stormwater sump located in northeast portion of parking lot

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



SWR 71144-CD
IHW

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

November 17, 2009

Mr. Bob Schoepke.
Senior Project Manager,
Safety-Kleen Systems, Inc.
4800 South Old Peachtree Rd.
Norcross, GA 30071

RECEIVED
FEB 17 2010
TCEQ
CENTRAL FILE ROOM

Re: Approval of *Semi-annual Ground Report, January to June 2009*, dated July 20, 2009
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City
TCEQ SWR No. 71144
TCEQ Compliance Plan No. CP - 50236
EPA ID No. TXD010803203
CN No. 600128128/RN No. 100717677

Dear Mr. Schoepke:

The Texas Commission on Environmental Quality (TCEQ) has reviewed the above referenced report dated July 20, 2009. The report generally fulfills the reporting requirements of Section VII.C.2 of the above referenced compliance plan.

An original and one copy of future reports should be submitted to the Remediation Division at the letterhead address using Mail Code MC-127. An additional copy should be submitted to the TCEQ Region 12 Office in Houston. The facility name, location and identification numbers in the reference line above should be included with the report. Questions concerning this letter should be directed to me at (512) 239-0507. Please use Mail Code MC-127 when responding by mail.

Sincerely,

A handwritten signature in cursive script, appearing to read "Dylan Lawson".

Dylan Lawson, Project Manager
Corrective Action Team 1, VCP-CA Section
Remediation Division

DL/r

cc: Ms. Nicole Bealle, Waste Program Manager, TCEQ Region 12 Office, Houston

IHW-71144-IN

Texas Commission on Environmental Quality

Investigation Report

SAFETY-KLEEN SYSTEMS INC

SAFETY-KLEEN MISSOURI CITY 6 073 02

RN100717677

Investigation # 112845

Incident #

Investigator: CHARLES BURNER

Site Classification

IHW LANDFILL
LARGE QUANTITY GENERATOR
CONTAINER STORAGE AREA
TANK (SURFACE)
MISCELLANEOUS STORAGE
CONTAINERS

Conducted: 05/29/2003 -- 06/06/2003

SIC Code: 7389

Program(s): INDUSTRIAL AND HAZARDOUS WASTE STORAGE
INDUSTRIAL AND HAZARDOUS WASTE GENERATION
INDUSTRIAL AND HAZARDOUS WASTE DISPOSAL
CORRECTIVE ACTION

Investigation Type : Compliance Investigation

Location :

Additional ID(s) : TXD010803203
FG0176M
33641
50236
TXD010803203
71144
A85239

Address: 1580 INDUSTRIAL DR;
MISSOURI CITY, TX 77489

Activity Type : IHW CME - Comprehensive groundwater
evaluation

Principal(s) :

Role

Name

RESPONDENT

SAFETY-KLEEN SYSTEMS INC

Contact(s) :

Role

Title

Name

Phone

Notified

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WST IHW/ INSPECTION REPORTS

1st: 71144 2nd: Vol: 001

5/29/2003

BBC: 66133829

IBC: 100324335



Role	Name
SUPERVISOR	RAMA YADAV
QA REVIEWER	EDGAR ST. JAMES JR

Associated Check List

<u>Checklist Name</u>	<u>Unit Name</u>
IHW INVESTIGATION TYPES	Activity-71144
IHW GENERIC OTHER ISSUES OR VIOLATIONS	Generic vio-71144
IHW GENERIC OTHER ISSUES OR VIOLATIONS	Generic issues-71144

1HW-71144-IN

Texas Commission on Environmental Quality

Investigation Report

SAFETY-KLEEN SYSTEMS INC

SAFETY-KLEEN MISSOURI CITY 6 073 02

RN100717677

Investigation # 112845

Incident #

Investigator: CHARLES BURNER

Site Classification

IHW LANDFILL
LARGE QUANTITY GENERATOR
CONTAINER STORAGE AREA
TANK (SURFACE)
MISCELLANEOUS STORAGE
CONTAINERS

Conducted: 05/29/2003 -- 06/06/2003

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Investigation Comments :**I. INTRODUCTION**

On May 29 and June 6, 2003, Charles Burner, Environmental Investigator of the Texas Commission on Environmental Quality (TCEQ) Region 12 Office conducted a Comprehensive Ground-Water Monitoring Evaluation (CME) at Safety-Kleen Systems Inc., Missouri City Facility (SK). Initial notification of the investigation was made to Mr. Gary Risse, Safety-Kleen Environmental Manager, on November 7, 2002. During the investigation, the facility was represented by the contractors, Mr. Thomas Forbes, Project Technical Manager, and Mr. James D. White, CAD Operator, Environmental Technician, with ATC Associates Inc. An exit interview was conducted at the end of the investigation with the facility representatives, and on June 6, 2003 with Mr. Ricardo Saucedo, P.E., Environmental, Health & Safety Manager, Safety-Kleen Corporation. The exit interviews included discussion of alleged noncompliances and the required corrective actions.

SK is located at 1580 Industrial Boulevard in Missouri City, Fort Bend County, Texas. The business occupies a two-acre tract. The location is in drainage area of Stream Segment 1102 of the San Jacinto-Brazos Coastal Basin. Land use in the area is mixed industrial, commercial and residential. The facility has been in operation at the location since 1975.

Safety-Kleen is a commercial storage and handling facility which provides spent solvent recycling services, and waste management services to primarily small businesses. The facility operates under the authorization of TCEQ Permit No. HW-50236, issued on October 9, 1991, and renewed on May 5, 2003. SK was also issued a compliance plan for two former underground storage tanks (USTs), and four wet dumpsters which for the Compliance Plan were combined to form Unit AA, See Attachment 1. In August 1987, Unit AA was closed. During closure, affected soils were noted. Analysis of the affected soils confirmed a release of mineral spirits. In February 1989, a hydrological assessment confirmed dissolved phase hydrocarbons in the groundwater. Pursuant to Provision VIII of the Permit, SK was required to conduct a RCRA Facility Investigation (RFI) of Unit AA. In lieu of conducting an RFI, SK submitted a Compliance Plan application in January 1992. The plan was approved by the agency in January 1994.

II. GROUNDWATER MONITORING SYSTEMS

Section II of the Compliance Plan authorized SK to install and operate a corrective action system to address the groundwater contamination. The system was installed and groundwater recovery initiated in May 1994. The system consisted of seven (7) wells; one recovery well (RW-1), one background well (MW-6), two point of compliance wells (POC) MW-8, and MW-9, and three corrective action observation (CAO) wells MW-2, MW-3, MW-4. Two additional wells MW-5, and MW-7 located at the facility were used only for water level measurements. The groundwater recovery and treatment system included a submersible recovery pump, a flow-through settling tank and a dual-canister activated carbon treatment filter. The pump and treat groundwater remediation system was shut down on September 30, 1998, after the agency approved a Compliance Plan major amendment by a letter to the facility on August 31, 1998. The amendment authorized monitored natural attenuation to address the groundwater contamination at the facility, See Attachment 9. With the issuance of the Compliance Plan Renewal on March 5, 2003, the monitoring well system detailed in Table IV of the Compliance Plan consisted of three (3) point of compliance wells (RW-1, MW-8, MW-9), and one background well, MW-7.

During the CME conducted on December 11, 1996, and January 3, 1997 two wells were noted to lack well

markings. The wells were remarked, and all the monitoring wells were resurveyed in January 1997. During the current investigation at the facility, one well was documented with no well measurement points marked on the casing (MW-1). The well was remarked during the investigation, and all the monitoring wells resurveyed on June 24, 2003. Well elevations were noted to vary up to 0.89 feet (MW-3) from the 1997 to the 2003 survey. The 1997 and 2003 survey results are included in Attachment 3.

III. REGIONAL HYDROLOGY AND GEOLOGY

The major aquifers of the upper Coastal Plain of Texas are the Chicot Aquifer (Pleistocene) and the Evangeline Aquifer (Pliocene), together referred to as the Gulf Coast Aquifer. The Chicot comprises the following stratigraphic units (in order of increasing age): Holocene alluvium and marginal bay deposits, the Beaumont Formation, Lissie Formation, and Willis Sand. The Evangeline Aquifer consists of the Goliad Sand stratigraphic unit. From the Quaternary outcrop in northwest Houston, the Chicot thickens from approximately 200 ft. to 1200 ft. at the present day coastline. The Evangeline outcrops in central Montgomery County at a thickness of approximately 400 ft. and thickens to 2400 ft. near the coastline at a depth of 1200 ft. below sea level. Because a distinct regional aquitard is not always discernable between the two aquifers, delineation between the Chicot and Evangeline is based on the occurrence of a higher sand-clay ratio in the Chicot than the Evangeline, differences in hydraulic conductivities, or differences in water levels.

The Chicot is the major source of fresh water in Galveston and southern Harris Counties and the Evangeline is the primary producer of fresh water in the Houston district; both are confined aquifers. Heavy pumping caused large declines in the elevations of the potentiometric surfaces of both aquifers, creating a large cone of depression in the eastern Houston area. However, the principal source of water for industries along the Houston and Texas City Ship Channels has switched from ground water to surface water resulting in recovering water levels in the Chicot and Evangeline Aquifers. The Beaumont Clay of the upper Chicot acts as a hydraulic barrier between the artesian aquifers and the surficial water table.

The Evangeline consists of alternating clay and gravel and yields potable water to a depth of about 1700 feet. The Evangeline is overlain by the Chicot which is about 600 feet at the site. The Chicot contains alternating beds of clay, silt, and sand. Water wells within the City of Pasadena over a 36-year period ending in 1991 showed the highest levels for the two aquifers at 148 feet below ground level in 1989 for a Chicot well, and 233 feet below ground level in 1990 for an Evangeline well. The most transmissive portions of the Chicot are below 280 feet at the site.

The Coastal Plain of Texas encompasses a 200 to 250 mile wide band paralleling the present-day coastline of the Gulf of Mexico. Cenozoic sediments were deposited along this band to form a gulfward thickening wedge of gravel, sand, silt, and clay facies tens of thousands of feet thick at the coast. Holocene, Pleistocene, and Pliocene deposits crop out across the upper Texas Coastal Plain with the older Pliocene strata exposed furthest from and dipping toward the present day Gulf. The Pliocene strata is overlain by younger Pleistocene units and Holocene alluvium resulting in progressively younger bands of sediment toward the gulf. These sediments were deposited by fluvial to fluvial-deltaic processes, prograding to nearshore marine deposition toward the gulf. The variability of depositional environments combined with growth faulting and subsidence, common to the Gulf Coast, results in stratigraphically heterogeneous strata. See Attachment 2, for Regional Cross Section. The regional topography is relatively flat, and slopes gently to the east in the area of the facility with an approximate surface gradient of 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou.

Formation(s) - (Youngest to Oldest)

The facility is situated on an outcrop of the Pleistocene Beaumont Formation which at the site is comprised of clays, clayey sands and silts of low to moderate permeability.

The outcrop of the Beaumont Formation of the uppermost Pleistocene Series extends from approximately Little York Road in northwest Houston to Galveston Bay and averages 100 feet in thickness (Geologic Atlas of Texas, Houston Sheet). Across much of the area Beaumont deposits are clayey sand and silt of moderate permeability and drainage, low to moderate compressibility and shrink-swell potential, and high shear strength; clay and mud of low permeability and poor drainage, high water-retention capacity, high compressibility, high to very high shrink-swell potential, low shear strength, and high plasticity. The surface features are low to depressed relief and poor drainage. The fine-grained sediments were deposited in interdistributary, abandoned channel-fill, and overbank fluvial environments. Sand and silt sediments were deposited in meanderbelt, levee, crevasse splay, and distributary sand settings.

The Lissie Formation is Pleistocene in age and has been divided into the Upper Lissie and Lower Lissie, corresponding to the Montgomery and Bentley Formations, respectively. The lower unit is approximately 1000 feet thick at the outcrop in northern Harris County and consists of clay, silt, sand, and minor amounts of gravel. The upper unit differs from the lower one, in that the upper is locally calcareous with concretions of calcium carbonate, iron oxide, and manganese oxide. The Upper Lissie is 100 feet or more in thickness at the outcrop in northern Harris County. The Lissie Formation is considered to be equivalent to the Alta Loma Sand of the Chicot Aquifer.

The Willis Formation is a Pleistocene fluvial deposit comprised of clay, silt, and sand with lesser amounts of granule to pebble size siliceous gravels. The Willis deposits are less than 75 feet thick at their outcrop in northern Harris County, significantly weathered, and locally cemented by iron-oxide.

The Goliad Sand is Pliocene in age and overlies the Miocene Fleming Formation. It outcrops in Montgomery County at a thickness of approximately 300 feet and consists of chalky white and pink bentonitic clays, gravelly beds, and carbonate cemented sandstone lenses. The Goliad Sand reaches a thickness of approximately 2400 feet in Galveston County at a depth of 1200 feet below MSL. The Goliad Sand is equivalent to the Evangeline Aquifer.

IV. SITE HYDROLOGY AND GEOLOGY

Topographically the area of the facility is relatively flat with an approximate surface gradient of 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou. The facility is situated on an outcrop of the Pleistocene Beaumont Formation which at the site is comprised of clays, clayey sands and silts of low to moderate permeability. See Section B of the CME Report Checklist for additional information. The sediments at the site appear typical of Beaumont Formation fluvio-deltaic clastic deposits. Sediments are dominantly fine grained ranging from clay to lesser amounts of fine sand. The environments of deposition represent back swamp, overbank, natural levee, point-bar and stream channel deposits. The cross section included as Attachment 2, suggests that the drilled interval below the site can be subdivided into three zones. Zone I is a clay section present from ground surface to 14 feet below ground surface (BGS). Zone II is a coarser clastic section that appears from 13 to 18 feet BGS. Zone II grades laterally from sand in the northeastern portion of the site at well MW-7 to silt in the area of wells MW-3 and RW-1, back to sand in the area of MW-9, and MW-1, and silt and clay in the southeastern portion of the site at well MW-5. Zone III is a predominately clay section which underlies Zone II. Several conductive intervals are encountered within the zone in wells MW-3, RW-1, and MW-5. Wells MW-3 and RW-1 encounter the Zone II interval from approximately 13 to 17 feet BGS. A second conductive interval is present in both wells at approximately 18.5 to 20 feet BGS. This second sand is included in Zone III in this report. The well screens for both wells are set across this Zone II sand and also the deeper sand. A Zone III sand is also described in well MW-5. In well MW-5 the sand was encountered at 29 - 30 feet BGS.

The section was not screened in the well.

The term "Uppermost Aquifer" as defined in the Compliance Plan Section I.A. is described as the "uppermost of first water-bearing zone that ranges in elevation from approximately 62 to 54 feet above Mean Sea Level (MSL). The top of the Uppermost Aquifer is approximately 12 feet below ground surface (BGS). Ground water is typically encountered 10 to 12 feet BGS". Depth to ground water at the site fluctuates seasonally. Water levels in all wells dropped approximately two feet from the May 24, 2002 sampling event to the November 26, 2002 sampling event. The water levels dropped from the November 26, 2002 sampling event to the May 29, 2003 sampling event approximately one foot in all wells. The groundwater elevations in all wells over the past three sampling events appear to show a potentiometric rise above the top of the Zone II conductive interval, suggesting that the unit is a confined aquifer. Groundwater elevation maps were prepared for the last three sampling events, and are included as Attachment 3. The maps show a fairly consistent direction of groundwater flow, with flow to the east southeast in the southern portion of the facility. Flow in the northern portion of the site appears to be toward well MW-3 (See Vector maps included in Attachment 3). The apparent influence of the well on flow in the area could be

attributable to a number of causes including an offsite drainage feature, or a survey error. As the well was completed across the Zone II conductive interval, and a deeper Zone III sand, the well could also be influenced by a downward component of groundwater flow from the shallower to the deeper sand.

As a result of this investigation the monitoring wells were resurveyed on June 24, 2003. Well elevations were noted to vary up to 0.89 feet (MW-3) from the 1997 to the 2003 survey. The 0.89 foot error in elevation at well MW-3 appears to be responsible for the apparent influence of the well on the groundwater flow at the site as discussed above. An additional groundwater elevation and vector map was prepared for the May 2003 sampling event using the new (June 2003) elevations. The map is included Attachment 3.

V. SUMMARY OF FINDINGS

Two wells were selected to be co-sampled with the contract personnel retained by SK, wells MW-1 and MW-2. The wells were selected as down gradient wells in the uppermost aquifer. The sampling was conducted on May 29, 2003. The TCEQ analysis consisted of Volatile Organic Compounds (VOC), by method 8260B, and total RCRA metals (unfiltered) via method 6010B, (method 7470A for mercury). The facility's analysis consisted of nitrate and sulfate by method 9056, and chlorobenzene and xylene by method 8260B. The facility and agency sample analysis compared favorably for wells MW-1 and MW-2, with the Agency's analysis showing chlorobenzene in well WM-2 of 10.4 parts per billion (ug/l), and the facility's analysis for the wells showing 13 ug/l.

The facility is conducting Monitored Natural Attenuation (MNA) under the compliance plan. The sample analysis results were reviewed from the start of MNA (September 30, 1998) to the current sampling event, See Attachment 4. Well MW-3 first detected chlorobenzene on May 24, 2002. The well has detected increasing concentrations of chlorobenzene for the last three sampling events. Well MW-2 had non detects for chlorobenzene for the last two sampling events, but detected chlorobenzene in the current sampling event. Wells MW-8 and MW-9 may also show increasing levels of chlorobenzene from the date that active groundwater remediation ceased. The increasing levels of chlorobenzene in the wells, and the fact that no well exists between either well MW-2 or MW-3 and the facility's property line is addressed in the alleged violations section of this report.

Areas of concern and alleged violations were documented during the investigation. A sampling and analysis plan was not available in the facility files, and was not used during the sampling event. The failure to maintain a sampling and analysis plan was cited as an alleged violation. A number of deficiencies noted

during the sampling event can be attributed to not utilizing a SAP. A sampling and analysis plan dated "Revised April 1998" was obtained by the facility from the TCEQ Austin Central Records microfiche after the sampling event. The plan is included as Attachment 7.

The facility's Chain of Custody (COC) forms and sample analysis results are included as Attachment 5. TCEQ COC forms, and sample analysis results are included as Attachment 4.

The outstanding and resolved alleged violations, and outstanding and resolved areas of concern from the investigation are listed below.

VI. SUMMARY OF ALLEGED VIOLATIONS AND AREAS OF CONCERN

Summary of Outstanding Alleged Violations:

1.) Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan (Category B-3).

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should maintain and utilize an appropriate SAP.

2.) Compliance Plan No. CP-50236 Provision V.A.1,2, and 4, Performance Standard (Category B-11).

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line. The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

3.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction (Category C-3).

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements the Compliance Plan.

4.) Permit Provision IV.B.1 Authorized Wastes (Category B-18).

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

5.) Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements (Category C-3).

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets (See Attachment 11), do not record all required information.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

Summary of Resolved Alleged Violations

1.) Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 16, Well Construction (Category C-3).

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, (See Attachment 3) therefore the alleged violation is considered resolved.

Summary of Outstanding Areas of Concern:

1.) Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

2.) A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

3.) Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

4.) Monitoring well RW-1 appears to still have no longer required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

5.) During the current sampling event, all well were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

6.) A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company (See Attachment 11). The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

7.) Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

Note: The above citations contain the complete rule references and descriptions of violations. The citations, which are automatically generated by the database system and found in the next section titled "Resolved Violation", are not complete and should be disregarded at this time.

<u>NOV Date</u>	<u>Method</u>
05/29/2003	VERBAL
07/23/2003	WRITTEN

ALLEGED NONCOMPLIANCES NOTED AND RESOLVED

Track No: 87277 Resolution Date: 7/22/03

40 CFR Chapter 270.1(a)

PERMIT Compliance Plan III.E.2, ref Attach B 16

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

Recommended Corrective Action: permanently mark the measuring point on well MW-1, and resurvey all wells.

Resolution: On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, therefore the alleged violation is considered resolved.

OUTSTANDING ALLEGED VIOLATIONS

Track No: 82829 Compliance Due Date: 8/23/03

PERMIT Compliance Plan Provision VI.B. 1. and 2
Sampling and Analysis Plan (SAP)

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

Recommended Corrective Action: The facility should maintain and utilize an appropriate SAP.

Resolution:

Track No: 82844

Compliance Due Date: 8/23/03

PERMIT Compliance Plan Provision V.A.1,2, and 4
Performance Standard

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

The permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

Recommended Corrective Action: The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line". The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

Resolution:

Track No: 82850

Compliance Due Date: 8/23/03

PERMIT Compliance Plan III.E.2, ref Att. B-13
Well Construction

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

Recommended Corrective Action: The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan

Resolution:

Track No: 82858

Compliance Due Date: 8/23/03

PERMIT IV.B.1
Authorized Wastes

Alleged Violation:

Investigation: 112845

Comment Date: 07/22/2003

The permittee is authorized to manage wastes listed in Permit Table IV.B. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

Recommended Corrective Action: The facility should ensure that contaminated groundwater is appropriately managed and disposed.

Resolution:**Track No:** 82867**Compliance Due Date:** 8/23/03**PERMIT Compliance Plan Provision VI.C.4.c.****Field Determination Requirements****Alleged Violation:**

Investigation: 112845

Comment Date: 07/22/2003

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

Recommended Corrective Action: The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

Resolution:**Areas of Concern****Description**

Item #1

Additional Comments

Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

Item #2

A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that

Item #3

demonstrate that the Uppermost Aquifer has been adequately delineated

Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

Item #4

Monitoring well RW-1 appears to still have no longer required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

Item #5

During the current sampling event, all well were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

Item #6

A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

Item #7

Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

Item #8

No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

5/29/03 to 6/6/03

Page 13 of 13

Item #9

The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

Item #10

10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

Signed

Chala Br
Environmental Investigator

Date

7/23/03

Signed

Ramona Yadae
Supervisor

Date

7/23/03

Attachments: (in order of final report submittal) Enforcement Action Request (EAR)1, 2, 3 Maps, Plans, Sketches✓ Letter to Facility (specify type) : NOR Photographs Investigation Report10 Correspondence from the facility4, 5 Sample Analysis Results4, 7, 8, 9 Other (specify) : Manifests8 NOR

See List of Attachments

Robert J. Huston, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Kathleen Hartnett White, *Commissioner*
Margaret Hoffman, *Executive Director*



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 23, 2003

CERTIFIED MAIL # 7001 2510 0007 0184 9254
RETURN RECEIPT REQUESTED

Mr. Ricardo Saucedo, P.E.,
Environmental, Health & Safety Manager
Safety-Kleen Corporation
5243 Sinclair Road
San Antonio, Texas 78222

Re: Notice of Violation for the Comprehensive Ground-Water Evaluation Investigation at:
Safety-Kleen Systems, Inc., Missouri City Facility, 1580 Industrial Drive, Missouri City, (Fort Bend
County), Texas
TCEQ ID No.:71144, TCEQ Permit No.:50236, EPA ID No.:TXD010803203

Dear Mr. Saucedo:

On May 29 and June 6, 2003, Charles Burner of the Texas Commission on Environmental Quality (TCEQ) Houston Region Office conducted an investigation of the above-referenced facility to evaluate compliance with applicable requirements for industrial solid waste. Enclosed is a summary which lists the investigation findings. During the investigation, some concerns were noted which were alleged noncompliances that have been resolved through verbal notification and subsequent corrective action. In addition, certain outstanding alleged violations were identified for which compliance documentation is required. Please submit to this office by August 23, 2003 a written description of corrective action taken and the required documentation demonstrating that compliance has been achieved for each of the outstanding alleged violations.

In the listing of alleged violations, we have cited applicable requirements, including TCEQ rules. If you would like to obtain a copy of the applicable TCEQ rules, you may contact any of the sources listed in the enclosed brochure entitled "Obtaining TCEQ Rules."

The Texas Commission on Environmental Quality appreciates your assistance in this matter. Please note that the Legislature has granted TCEQ enforcement powers which we may exercise to ensure compliance with environmental regulatory requirements. We anticipate that you will resolve the alleged violations as required in order to protect the State's environment. If you have additional information that we are unaware of, you have the opportunity to contest the violation(s) documented in this notice. Should you choose to do so, you

REPLY TO: REGION 12 • 5425 POLK AVE., STE. H • HOUSTON, TEXAS 77023-1486 • 713/767-3500 • FAX 713/767-3520

P.O. Box 13087 • Austin, Texas 78711-3087 • 512/239-1000 • Internet address: www.tceq.state.tx.us

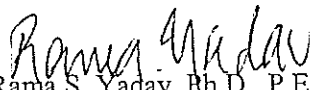
printed on recycled paper using soy-based ink

Mr. Ricardo Saucedo, P.E.,
Safety-Kleen Corporation.
July 23, 2003

must notify the Houston Region Office within 10 days from the date of this letter. At that time, Ms. Marsha Hill, Waste Program Manager, will schedule a violation review meeting to be conducted. However, please be advised that if you decide to participate in the violation review process, the TCEQ may still require you to adhere to the compliance schedule referenced in paragraph one above until an official decision is made regarding the status of any or all of the contested violations.

If you or members of your staff have any questions, please feel free to contact Mr. Charles Burner in the Houston Region Office at Phone (713)767-3616.

Sincerely,


Rama S. Yadav, Ph.D., P.E.
Team Leader, Waste Section
Region 12 - Houston

Enclosure: Summary of Investigation Findings
 Obtaining TCEQ Rules

SUMMARY OF INVESTIGATION FINDINGS
Safety-Kleen Systems, Inc., Missouri City Facility
1580 Industrial Drive, Missouri City, (Fort Bend County), Texas
TCEQ ID No.:71144, EPA ID No.: TXD010803203, Permit No.: 50236
Investigation Date: May 29 and June 6, 2003

SUMMARY OF OUTSTANDING ALLEGED VIOLATIONS

During this investigation, the following alleged violations were documented and remain outstanding.

1. **Compliance Plan No. CP-50236 Provision VI.B. 1. and 2. Sampling and Analysis Plan**

Wells shall be sampled according to the Sampling and Analysis Plan (SAP). The sampling crew was unaware of a SAP. The facility records did not contain a SAP at the time of the investigation.

The facility should maintain and utilize an appropriate SAP.

2. **Compliance Plan No. CP-50236 Provision V.A.1,2, and 4. Performance Standard**

The Permittee shall conduct the Corrective Action Program so as to achieve the Ground-Water Protection Standard (GWPS) "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line;" and "beyond the facility boundary." Additionally, the permittee is required to recommend changes to the configuration of the Corrective Action System at any time that the contamination in the Uppermost Aquifer is not being effectively contained and/or remediated. Sample results for recent sampling events indicate that chlorobenzene concentrations exceeding GWPS appear to be increasing in Point of Compliance (POC) wells MW-2, and MW-3.

The facility should contact the TCEQ Corrective Action Section regarding modification of the corrective action system to achieve the Ground-Water Protection Standard "at the Point of Compliance and between the Point of Compliance and the downgradient facility property line." The facility should also either demonstrate to the agency that the lateral or vertical extent of ground-water contamination has been delineated, or initiate an investigation to determine the extent of the contamination.

3. **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 13, Well Construction**

Copies of drilling and construction details shall be kept onsite. No construction details were provided for wells MW-5, MW-6, and MW-7. Additionally, none of the well construction detail logs provided by the facility meet all the requirements specified in the Compliance Plan.

The facility should obtain, or recreate well construction details meeting the requirements of the Compliance Plan.

4. **Permit Provision IV.B.1 Authorized Wastes**

The permittee is authorized to manage wastes listed in Table IV.B of the Permit. During the current sampling event, evacuated groundwater was poured in the facility's drum washing system. Contaminated groundwater is not listed on the referenced table.

The facility should ensure that contaminated groundwater is appropriately managed and disposed.

5. **Compliance Plan No. CP-50236 Provision VI.C.4.c. Field Determination Requirements**

Field observations including descriptions of the appearance (clarity, color, etc.) shall be recorded. The field data sheets, do not record all required information.

The facility should ensure that appropriate field data forms are utilized, and all required information is recorded.

SUMMARY OF ALLEGED VIOLATIONS RESOLVED

During this investigation, the following alleged violation was documented and subsequently resolved after corrective action.

1. **Compliance Plan No. CP-50236 Provision III.E.2, referencing Attachment B, No. 16, Well Construction**

The permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals. Well MW-1 was noted to not have a measuring point marked on the well. Additionally the last survey was conducted in January 1997, over six years from the investigation date.

On May 29, 2003 the facility's consultant marked the measuring point on well MW-1. The facility also resurveyed the monitoring wells on June 24, 2003, therefore the alleged violation is considered resolved.

SUMMARY OF OUTSTANDING AREAS OF CONCERN

During this investigation, the following areas of concern were documented and remain to be addressed.

1. Groundwater flow for the past three sampling events appears to be strongly influenced by well MW-3 in the northern portion of the facility. The apparent flow pattern could be caused by a number of factors including well survey error(s), a drainage feature located near the well, or a downward component of flow in well MW-3 from the shallower Zone II sand to a deeper sand also screened in Zone III. Additionally, the point of compliance wells appear to be upgradient of Unit AA.

The wells were resurveyed on June 24, 2003. The survey results show a discrepancy of up to 0.89 feet in well MW-3, with every well with the exception of MW-8 showing a change in elevation of over 0.03 feet.

The facility should review groundwater elevations for past sampling events and if necessary revise prepared maps and the determinations based upon the erroneous elevation(s).

2. A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have been done, the assessments were not found in the facility files, and could not be provided by the facility.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

3. Slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands. Although assessments appear to have been done for the upper conductive intervals(s) the facility was unable to provide the assessments for review during this investigation.

The facility should provide assessments that demonstrate that the Uppermost Aquifer has been adequately delineated.

4. Monitoring well RW-1 appears to still have no longer required components of a recovery system installed in the well bore.

Recovery well components which are no longer required should be removed.

5. During the current sampling event all wells were purged and sampled with a rented 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unsuitable for sampling gas sensitive parameters such as dissolved gasses, VOCs, and metals.

EPA - approved low flow minimum drawdown sample methodology and equipment should be utilized for sampling events.

6. A rented flow through cell was used to measure purge parameters prior to sampling the wells. The equipment was calibrated two days before the sampling event by the rental company. The equipment was not recalibrated the day of the sampling event by the sampling crew.

All equipment should be calibrated per EPA guidance.

7. Although a trip blank was collected, the sample was not listed on the original COC, but was added by the laboratory.

All sampling should be conducted utilizing EPA approved methodology.

- 8.) No duplicate sample was prepared for the sample event. No field blank was taken for the sample event.

All sampling should be conducted utilizing EPA approved methodology.

- 9.) The COC prepared by the sample crew contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples.

All sampling should be conducted utilizing EPA approved methodology.

- 10.) During the purging of wells, the downhole pump was placed at or near the bottom of the screen.

All sampling should be conducted utilizing EPA approved methodology.

TCEQ INDUSTRIAL AND HAZARDOUS WASTE INSPECTION REPORT INVESTIGATION COVER SHEET

IHW Reg. No.: 71144 HW Permit No.: 50236 EPA ID No.: TXD010803203 UIC Permit No.: N/A
Name of Company: Safety-Kleen Systems Inc. Telephone No.: 210-648-7066
Mailing Address: 1580 Industrial Rd., Missouri City, TX 77459 Site Address: Same
County: 79- Fort Bend Type of Industry: 532299 Equipment Rental and Leasing
Previous Name(s) of Company (if applicable): N/A
Property Owner (if different than company): N/A

TYPE FACILITY (Check all that apply): Permitted ☒ Interim-Status ☐ LQG ☒ SQG ☐ CESQG ☐
EXEMPTIONS: SAA

FAC. CLASSIFICATION (Check all that apply): Industrial ☒ Municipal ☐ Commercial ☐
Government ☐ Non-Gov't. ☒

OPERATIONAL STATUS: active

Current Waste Management: Generator H, 1, 2

Treatment

H = Hazardous

Storage H, 1, 2

1 = Class 1 Non-hazardous

Disposal

2 = Class 2 Non-hazardous

Transporter

3 = Class 3 Non-hazardous

Pending Notification

and Waste Determination (for Non-Notifiers)

H W Permitted Units (circle): C T SI WP LT LF I TT TR WDW BIF MU

H W Interim St. Units (circle): C T SI WP LT LF I TT TR WDW BIF

H W Permit-Exempt Units: C T SA CB DP

N H Units (circle codes): C T SI WP LT LF I TT TR WDW MU
(double circle if permitted)

TYPE OF INSPECTION (circle): CEI SPL NRR CME CSE CDI OAM

OTH (+ reason) 06 = closure inspection 22 = SPL results 34 = UIC inspection
39 = BIF/multi media 49 = BIF 53 = multi-media inspection
61 = state inspection

Inspector's Name and Title Charles Burner, Field Investigator
Inspection Participants Mr. Thomas Forbes, Project Technical Manager, and Mr. James D. White, CAD Operator,
Environmental Technician, ATC Associates Inc.

Date(s) of Inspection : May 29, 2003 June 6, 2003
(begin) (end)

Signed Charles Burner 7/23/03 Approved: Ramona Yadao 7/23/03
(date) (date)

CME INSPECTION REPORT CONTENTS SHEET

- ✓ 1. Comprehensive Monitoring & Evaluation Log (CMEL)
- ✓ 2. Inspection Cover Sheet
- ✓ 3. Contents Sheet
- ✓ 4. CME Hydrogeologic & Compliance Evaluation Report
- ✓ 5. CME Inspection Checklist
- ✓ 6. Sample Analyses Report Checklist
- ✓ 7. List of Attachments
- ✓ 8. Compliance Status Letter to Facility (NOV)
- ✓ 9. Interoffice Memorandum (with Summary of Findings)
- ✓ 10. Other: List of Attachments

NOTE: If a required checklist is omitted, explain below:

COMMENT: _____

**CME INSPECTION REPORT
HYDROGEOLOGIC & COMPLIANCE EVALUATION REPORT**

Section A -- Introduction

1. Facility Name: Safety-Kleen Systems, Inc. (SK)
2. Permit No.: 50236 Compliance Plan No.: 50236
3. Facility Description:

SK is located at 1580 Industrial Boulevard in Missouri City, Fort Bend County, Texas. The business occupies a two-acre tract. The location is in drainage area of Stream Segment 1102 of the San Jacinto-Brazos Coastal Basin. Land use in the area is mixed industrial, commercial and residential. The facility has been in operation at the location since 1975.

Safety-Kleen is a commercial storage and handling facility which provides spent solvent recycling services, and waste management services to primarily small businesses. The facility operates under the authorization of TCEQ Permit No. HW-50236, issued on October 9, 1991, and renewed on May 5, 2003. SK was also issued a compliance plan for two former underground storage tanks (USTs), and four wet dumpsters which for the Compliance Plan were combined to form Unit AA, See Attachment 1. In August 1987, Unit AA was closed. During closure, affected soils were noted. Analysis of the affected soils confirmed a release of mineral spirits. In February 1989, a hydrological assessment confirmed dissolved phase hydrocarbons in the groundwater. Pursuant to Provision VIII of the Permit, SK was required to conduct a RCRA Facility Investigation (RFI) of Unit AA. In lieu of conducting an RFI, SK submitted a Compliance Plan application in January 1992. The plan was approved by the agency in January 1994.

4. Date of Previous CME: The previous CME was conducted at the site on December 11, 1996, and January 3, 1997.
5. Chronology of Ground-Water Monitoring Activities Since the Previous CME (or inception of groundwater activities if no CME conducted):

6/12/2001	Submittal of Permit and Compliance Plan renewal.
9/30/1998	The pump and treat groundwater remediation system was shut down after the agency approved a Compliance Plan major amendment via letter to the facility on August 31, 1998. The amendment authorized monitored natural attenuation (MNA) to address the groundwater contamination at the facility.
5/5/2003	Issuance of Permit and Compliance Plan, conversion to MNA, change of well designations for point of compliance and background wells.
6. RCRA Regulated Waste Management Unit(s) (WMU) Requiring Ground-Water Monitoring:

SK was issued a compliance plan for two former underground storage tanks (USTs), and four wet dumpsters which for the Compliance Plan were combined to form Unit AA. One of the former USTs was used for the storage of spent solvent, and one for storage of product, (**See Attachment 1**). In August 1987 Unit AA was closed. During closure affected soils were noted and analysis confirmed a release of mineral spirits. In February 1989, a hydrological assessment confirmed dissolved phase hydrocarbons in the groundwater. Pursuant to Provision VIII of the Permit, SK was required to conduct a RCRA Facility Investigation (RFI) of Unit AA. In lieu of conducting an RFI, SK submitted a Compliance Plan application in January 1992. The plan was approved by the agency in January 1994.

- a. Indicate all WMUs subject to RCRA Ground-Water Monitoring and the location of the monitoring wells on a site diagram as **Attachment 1**.

b. Unit Information -

Unit Name: Unit AA

Facility No.: Permit No.1, NOR Unit 01

Size: Two 15,000 gallon USTs, four wet dumpsters, and an inactive tank pit.

Year in Service: May 1975

Status: The UST's and dumpsters were removed in August 1987, and the inactive tank pit was closed.

Construction: Steel tank without secondary containment.

Section B -- Technical Review

1. Regional Geology

The Coastal Plain of Texas encompasses a 200 to 250 mile wide band paralleling the present-day coastline of the Gulf of Mexico. Cenozoic sediments were deposited along this band to form a gulfward thickening wedge of gravel, sand, silt, and clay facies tens of thousands of feet thick at the coast. Holocene, Pleistocene, and Pliocene deposits crop out across the upper Texas Coastal Plain with the older Pliocene strata exposed furthest from and dipping toward the present day Gulf. The Pliocene strata is overlain by younger Pleistocene units and Holocene alluvium resulting in progressively younger bands of sediment toward the gulf. These sediments were deposited by fluvial to fluvial-deltaic processes, prograding to nearshore marine deposition toward the gulf. The variability of depositional environments combined with growth faulting and subsidence, common to the Gulf Coast, results in stratigraphically heterogeneous strata. **See Attachment 2, for Regional Cross Section.** The regional topography is relatively flat, and slopes gently to the east in the area of the facility with an approximate surface gradient of 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou.

a. Formation(s) - (Youngest to Oldest)

The facility is situated on an outcrop of the Pleistocene Beaumont Formation which at the site is comprised of clays, clayey sands and silts of low to moderate permeability.

The outcrop of the Beaumont Formation of the uppermost Pleistocene Series extends from approximately Little York Road in northwest Houston to Galveston Bay and averages 100 feet in thickness (Geologic Atlas of Texas, Houston Sheet). Across much of the area Beaumont deposits are clayey sand and silt of moderate permeability and drainage, low to moderate compressibility and shrink-swell potential, and high shear strength; clay and mud of low permeability and poor drainage, high water-retention capacity, high compressibility, high to very high shrink-swell potential, low shear strength, and high plasticity. The surface features are low to depressed relief and poor drainage. The fine-grained sediments were deposited in interdistributary, abandoned channel-fill, and overbank fluvial environments. Sand and silt sediments were deposited in meanderbelt, levee, crevasse splay, and distributary sand settings.

The Lissie Formation is Pleistocene in age and has been divided into the Upper Lissie and Lower Lissie, corresponding to the Montgomery and Bentley Formations, respectively. The lower unit is approximately 1000 feet thick at the outcrop in northern Harris County and consists of clay, silt, sand, and minor amounts of gravel. The upper unit differs from the lower one, in that the upper is locally calcareous with concretions of calcium carbonate, iron oxide, and manganese oxide. The Upper Lissie is 100 feet or more in thickness at the outcrop in northern Harris County. The Lissie Formation is considered to be equivalent to the Alta Loma Sand of the Chicot Aquifer.

The Willis Formation is a Pleistocene fluvial deposit comprised of clay, silt, and sand with lesser amounts of granule to pebble size siliceous gravels. The Willis deposits are less than 75 feet thick at their outcrop in northern Harris County, significantly weathered, and locally cemented by iron-oxide.

The Goliad Sand is Pliocene in age and overlies the Miocene Fleming Formation. It outcrops in Montgomery County at a

thickness of approximately 300 feet and consists of chalky white and pink bentonitic clays, gravelly beds, and carbonate cemented sandstone lenses. The Goliad Sand reaches a thickness of approximately 2400 feet in Galveston County at a depth of 1200 feet below MSL. The Goliad Sand is equivalent to the Evangeline Aquifer.

References:

Fisher, W. L., 1982, Geologic Atlas Sheet of Texas - Houston Sheet, Bureau of Economic Geology, The University of Texas at Austin, Austin, Texas.

Baker, E. T., Jr., 1979, Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas, Texas Department of Water Resources, Report 236.

- b. Regional Dip and Gradient: The approximate surface gradient is 2.6 feet per mile from west to the east. Surface water in the area appears to drain east to Sims Bayou, then to Buffalo Bayou.

Reference: U.S.G.S. Topographic Map, Missouri City Quadrangle, Texas (1980)

2. Site Geology

The sediments at the site appear typical of Beaumont Formation fluvio-deltaic clastic deposits. Sediments are dominantly fine grained ranging from clay to lesser amounts of fine sand. The environments of deposition represent back swamp, overbank, natural levee, point-bar and stream channel deposits. The cross section included as **Attachment 2**, suggests that the drilled interval below the site can be subdivided into three zones. Zone I is a massive clay section present from ground surface to 14 feet below ground surface (BGS). Zone II is a courser clastic section that appears from 13 to 18 feet BGS. Zone II grades laterally from sand in the northeastern portion of the site at well MW-7 to silt in the area of wells MW-3 and RW-1, back to sand in the area of MW-9, and MW-1, and silt and clay in the southeastern portion of the site at well MW-5. Zone III is a predominately clay section which underlies Zone II. Several conductive intervals are encountered within the zone in wells MW-3, RW-1, and MW-5. Wells MW-3 and RW-1 encountered the Zone II interval from approximately 13 to 17 feet BGS. A second conductive interval is present in both wells at approximately 18.5 to 20 feet BGS. This second sand is included in Zone III in this report. The well screens for both wells are set across this Zone II sand and also the deeper sand. A Zone III sand is also described in well MW-5. In well MW-5 the sand was encountered at 29 - 30 feet BGS. The section was not screened in the well.

a. Site Diagram - **Attachment 1**

b. Site Stratigraphy -

- i. Depth of investigation: Surface to 30 feet below ground surface (BGS)

- ii. Geologic Units -

Unit Name: Zone I, Aquitard

Depth interval

encountered: Ground surface to -13 feet BGS

Description: Surficial clay, massive, red tan gray, rare silty. Thickness varies from 12.5 to 14 feet.

Unit Name: Zone II, Aquifer

Depth interval

encountered: -13 to -18 feet BGS

Description: Designated as the uppermost water bearing zone and characterized by very fine grained sand. Red, grading to silt and clay. The unit appears to be continuous across the site, however it contains interbeds of clay and silt. The zone ranges in thickness from 3.5 to 5 feet.

Unit Name: Zone III, Aquitard

Depth interval

encountered: -18 to -29 feet BGS
Description: Clay unit which underlies Zone II Aquifer. Red to gray clay, somewhat silty. The thickness of the unit has not been delineated at the site as most of the wells / borings terminated above 20 feet below ground surface. Boring B-1 was drilled to a depth of 48 feet and encountered the unit from -25 to -31 feet below ground surface. Well MW-5 encountered the interval from 17 to 29 feet. MW-5 was terminated in a basal sand unit from 29 to 30 feet below ground surface.

c. Cross-sections provided as Attachment 2.

3. Regional Hydrology

The major aquifers of the upper Coastal Plain of Texas are the Chicot Aquifer (Pleistocene) and the Evangeline Aquifer (Pliocene), together referred to as the Gulf Coast Aquifer. The Chicot comprises the following stratigraphic units (in order of increasing age): Holocene alluvium and marginal bay deposits, the Beaumont Formation, Lissie Formation, and Willis Sand. The Evangeline Aquifer consists of the Goliad Sand stratigraphic unit. From the Quaternary outcrop in northwest Houston, the Chicot thickens from approximately 200 ft. to 1200 ft. at the present day coastline. The Evangeline outcrops in central Montgomery County at a thickness of approximately 400 ft. and thickens to 2400 ft. near the coastline at a depth of 1200 ft. below sea level. Because a distinct regional aquitard is not always discernable between the two aquifers, delineation between the Chicot and Evangeline is based on the occurrence of a higher sand-clay ratio in the Chicot than the Evangeline, differences in hydraulic conductivities, or differences in water levels.

The Chicot is the major source of fresh water in Galveston and southern Harris Counties and the Evangeline is the primary producer of fresh water in the Houston district; both are confined aquifers. Heavy pumping caused large declines in the elevations of the potentiometric surfaces of both aquifers, creating a large cone of depression in the eastern Houston area. However, the principal source of water for industries along the Houston and Texas City Ship Channels has switched from ground water to surface water resulting in recovering water levels in the Chicot and Evangeline Aquifers. The Beaumont Clay of the upper Chicot acts as a hydraulic barrier between the artesian aquifers and the surficial water table.

The Evangeline consists of alternating clay and gravel and yields potable water to a depth of about 1700 feet. The Evangeline is overlain by the Chicot which is about 600 feet at the site. The Chicot contains alternating beds of clay, silt, and sand. Water wells within the City of Pasadena over a 36-year period ending in 1991 showed the highest levels for the two aquifers at 148 feet below ground level in 1989 for a Chicot well, and 233 feet below ground level in 1990 for and Evangeline well. The most transmissive portions of the Chicot are below 280 feet at the site.

References:

Baker, E. T., Jr., 1979, Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas, Texas Department of Water Resources, Report 236.
Kreitler, C. W.; Guevera, E.; Granata, G.; and McKalips, D., 1977, Hydrogeology of Gulf Coast Aquifers, Houston-Galveston Area, Texas, Transactions-GCAGS, Volume XXVII.
Gabrysch, R. K., 1984, Ground Water Withdrawals and Changes in Water Levels in the Houston District, Texas, 1975-79; Texas Department of Water Resources, Report 286.

a. Regional ground-water flow -

Direction: Chicot - SSE

Evangeline - SSE

Reference: Ground Water Withdrawals and Changes in Water Levels in the Houston District, Texas, 1975-79; Texas Department of Water Resources.

b. Is the site located on the recharge area of a major aquifer?

No.

- c. Is the site located on the recharge area of a minor aquifer?
No.

4. Site Hydrology

The term "Uppermost Aquifer" as defined in the Compliance Plan Section I.A. is described as the "uppermost of first water-bearing zone that ranges in elevation from approximately 62 to 54 feet above Mean Sea Level (MSL). The top of the Uppermost Aquifer is approximately 12 feet below ground surface (BGS). Ground water is typically encountered 10 to 12 feet BGS." Depth to ground water at the site fluctuates seasonally. The depth to groundwater in the last three sampling events varied with the water levels in all wells dropping approximately two feet from the May 24, 2002 sampling event to the November 26, 2002 sampling event. The water levels dropped from the November 26, 2002 sampling event to the May 29, 2003 sampling event approximately one foot in all wells. The groundwater elevations in all wells over the past three sampling events appear to show a potentiometric rise above the top of the Zone II conductive interval, suggesting that the unit is a confined aquifer. Groundwater elevation maps were prepared for the past three sampling events, and are included as **Attachment 3**. The maps show a fairly consistent direction of groundwater flow over the three sampling events, with flow to the east southeast in the southern portion of the facility. Flow in the northern portion of the site appears to be toward well MW-3 (See Vector maps included in **Attachment 3**). The apparent influence of the well on the flow could be attributable to a number of causes including an offsite drainage feature, or a survey error. As the well was completed in the Zone II, and a deeper Zone III sand the well could also be influenced by a downward component of groundwater flow from the shallower to the deeper sand.

As a result of this investigation the monitoring wells were resurveyed on June 24, 2003. Well elevations were noted to vary up to .89 feet (MW-3) from the 1997 to the 2003 survey. The .89 foot error in elevation at well M W-3 appears to be responsible for the apparent influence of the well on the groundwater flow at the site as discussed above. An additional groundwater elevation and vector map was prepared for the May 2003 sampling event using the new (June 2003) elevations. The map is included **Attachment 3**.

a. Saturated zone(s) and aquitard(s) -

Unit: Zone I, Aquitard

Depth interval encountered: (ft-ft): Surface to -13 ft BGL

Saturated thickness: N/A.

Confined/unconfined: N/A

Potentiometric rise (if confined): NA

Horizontal hydraulic conductivity (k): unknown

Source of k value: N/A

Vertical hydraulic conductivity (k): unknown

Source of k value: N/A

Unit: Zone II, Aquifer, Designated "uppermost of first water-bearing zone"

Depth interval encountered: -13 to - 18 feet MSL

Saturated thickness: 3 - 5 feet

Confined/unconfined: unconfined

Potentiometric rise (if confined):

Horizontal hydraulic conductivity: 6.3×10^{-5} ft/sec

Source of k: Slug tests, May 1991, referenced in 1997 CME report, well and depth were not specified.

Vertical hydraulic conductivity (k): unknown

Source of k value: N/A

Unit: Zone III, Aquitard

Depth interval encountered (ft-ft): -18 - 29 feet MSL (zone is poorly delineated at the site, there are limited full penetrations of the interval at the site).

Saturated thickness: N/A

Confined/unconfined: N/A

Potentiometric rise (if confined): N/A

Horizontal hydraulic conductivity (k): unknown

Source of k value: N/A

Vertical hydraulic conductivity (k): unknown

Source of k value: N/A

- b. Is the first water-bearing zone identified in Section B.4.a., above, in communication with a deeper zone(s)?

Unknown, lower sand seen at a depth of 29 feet below ground surface in boring B-1 and from 29 to 30 feet below ground surface in well MW-5 does not appear to have been evaluated. However, the Zone III clay may have sufficient thickness, and low permeability (based on lithologic descriptions only) to act as an effective aquitard. Groundwater elevation maps prepared for the past three sampling events suggest that the Zone II sand could be in communication with a Zone III sand, See section 4., Site Hydrology, above.

COMMENT: This was addressed as an area of concern in the report.

- c. Is the aquitard(s) continuous beneath the site?

The Zone III aquitard appears to be continuous beneath the site, however the interval appears to be poorly tested as only one boring and one well appear to have drilled the full section of Zone III.

- d. Geologic unit(s) monitored during interim status: N/A

- e. Geologic unit designated as the uppermost aquifer in the Part B application/permit: Zone II Aquifer

Concur with designation? Unknown, A sufficient section of Zone III does not appear to have been drilled to determine if conductive intervals, in communication with Zone II, are present below the drilled sections in the monitoring wells. Although past assessments appear to have done the assessments were not found in the facility files, and could not be provided by the facility's consultant. Additionally, slug and/or pump tests do not appear to have been conducted to determine if the Zone III sands penetrated in wells MW-3, RW-1, and MW-5 are hydraulically connected to Zone II sands.

COMMENT: These issues are addressed as an area of concern in the report.

5. Site Ground-Water Movement

- a. Potentiometric surface map(s) provided as **Attachments 3**.

- b. Calculations of minimum and maximum observed gradients (i) in units of feet/foot, based on 1997 well survey.

Zone II

I(min) = Well MW-5 to 62.45 ft contour, .04 ft / 35.82 ft = 1.1×10^{-3} ft/ft

I(max) = Well RW-1 to MW-3, .51 ft / 26.7 ft = .019 ft/ft

- c. Calculation of Flow Rate(v) in feet/day.

$v = ki/n_e$

(k=hydraulic conductivity; n_e =effective porosity; i=gradient)

Zone II

$v = ki/n_e = 5.74 \times 10^{-3}$ ft/day $[k = 6.3 \times 10^{-5}$ ft/sec = .09072 ft/day, $i_{max} = .019$ ft/ft, $n_e = 0.30]$

Reference: Conductivity used (6.3×10^{-5} ft/sec or .09072 ft/d) is the value reported in the prior CME to be from slug tests conducted in May 1997. No further reference to slug tests was found in the agency or facility files. The effective porosity selected is estimated based on lithologic descriptions, the gradient used was maximum calculated in b. above.

6. Monitor Well Construction and Vertical Placement.

a. Table of well construction details provided as **Attachment 6**.

b. Vertical placement of wells satisfactory?

Comment: Unknown, wells MW-3 and RW-1 may be screened across two separate hydraulic intervals, Zone II, and a sand within Zone III.

COMMENT: This is addressed as an area of concern in the report.

c. Are detailed well installation diagrams, including lithologic logs, available for all monitor wells?

No, well completion information is missing for facility wells MW-5, MW-6, and MW-7.

COMMENT: This is addressed as an alleged violation in the report.

Section C -- MONITORING SYSTEM COMPLIANCE WITH RULES AND PERMIT/COMPLIANCE PLAN PROVISIONS

- | | |
|--|-------------------|
| 1. Interim Status Detection Monitoring | N/A <u>✓</u> |
| 2. Interim Status Assessment Monitoring | N/A <u>✓</u> |
| 3. Permitted Status Detection, Compliance, or Corrective Action Monitoring | N/A <u> </u> |

List unit(s) operating under this status (specify detection, compliance, or corrective action monitoring for each unit, delete Section C.3. if N/A): Permit unit 008, NOR unit 010.

a. Does the ground-water monitoring system consist of a sufficient number of wells, installed at appropriate locations depths to yield ground-water samples from the uppermost aquifer that:

i. Represent the quality of background water that has not been affected by leakage from a regulated unit?
[335.163(1)(A)/264.97(a)(1)]

COMMENT: Yes

ii. Represent the quality of ground-water passing the point of compliance? [335.163(1)(B)/264.97(a)(2)]

No, Based on groundwater elevation maps, and Vector maps prepared for the last three sampling events point of compliance wells MW-1, MW-8, and MW-9 appear to be upgradient of Area AA. The wells do appear to be downgradient when the elevations for the current sampling event are calculated using the June 24, 2003 survey data. See Attachment 3.

COMMENT: This is addressed as an area of concern.

iii. Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management unit to the uppermost aquifer? [335.163(1)(C)/264.97(a)(3)]

COMMENT: See comment 3.a.ii. above.

b. Are all monitoring wells cased in a manner that maintains the integrity of the monitoring well borehole?
[335.163(3)/264.97(c)]

COMMENT: Unknown, well completion information is not known for all wells, see Section 6.c above.

- c. Does the ground-water monitoring system satisfy the requirements specified in the permit/compliance plan?

COMMENT: No, See comment 6.b. above.

- d. Have any changes in ground-water flow direction occurred which would warrant a permit or compliance plan amendment to require additional point of compliance or background wells? [335.164(8)/264.98(h)]

COMMENT: See comment 3.a.ii. above

4. Compliance with Enforcement Order Provisions

N/A ✓

- a. Has an enforcement order been issued to the facility?

COMMENT: no

- b. Is the facility compliant with all provisions of the enforcement order concerning ground-water monitoring, assessment and corrective action?

COMMENT: N/A

**CME INSPECTION REPORT
CME INSPECTION CHECKLIST**

Section A -- INTRODUCTION

1. Facility Name: Safety-Kleen Systems, Missouri City Facility
2. RCRA Ground-Water Monitoring Status: Complete the table on the next page for each RCRA Waste Management Unit (WMU).
3. Do the locations of the monitoring wells on the site diagram(s) of the WMUs compare with the locations of the wells spot-checked in the field? N/A YES ✓ NO
4. Site Location Map - Attachment 1
(indicate site location directly on map or reproduction).

Section B -- MONITOR WELL SYSTEM REVIEW

1. Changes to the RCRA Monitor Well System:

Section II. of the Compliance Plan authorized SK to install and operate a corrective action system to address the groundwater contamination. The system originally consisted of a groundwater recovery and treatment system consisting of seven (7) wells; one recovery well (RW-1), one background well (MW-6), two Point of Compliance wells (POC) MW-8, and MW-9, and three Corrective Action Observation (CAO) wells. Two additional wells MW-5, and MW-7 located at the facility were used only for water level measurements. In March 1994 MW-4 was converted to recovery well RW-1, by replacing the original 4-inch PVC pipe with 6-inch stainless steel casing and screen. The groundwater recovery system which included a submersible recovery pump, a flow-through settling tank and a dual-canister activated carbon treatment filter was installed and initiated in May 1994. The pump and treat groundwater remediation system was shut down on September 30, 1998, after the agency approved a Compliance Plan major amendment via letter to the facility on August 31, 1998. The amendment authorized monitored natural attenuation to address the groundwater contamination at the facility, See **Attachment 9**. With the issuance of the Compliance Renewal on March 5, 2003, the monitoring well system detailed in Table IV of the Compliance Plan consisted of three (3) point of compliance wells (RW-1, MW-8, MW-9), and one background well, MW-7. A note to Table IV states that "Wells and piezometers identified on Attachment A maps that are not listed in this table are subject to change . . . without modification to the Compliance Plan." During the current sampling event the facility sampled all wells at the site.

- a. Have any monitor wells been installed or replaced? N/A NO YES ✓
 - i. If YES, has a copy of the well installation diagram including lithologic logs for each new well been submitted to the TCEQ? N/A ✓ YES NO
If not, copies of these are included as Attachment.
- b. Have any monitor wells been designated as inactive since the last CME/O&M (still in place but not being used)? N/A ✓ NO YES
 - i. If YES, list: With the renewal of the Compliance Plan on of the issuance of the
- c. Have any monitor wells been removed/plugged? N/A ✓ NO YES
 - i. If YES, has the plugging report been submitted to the TCEQ? N/A ✓ YES NO

*** An entry in this column indicates corrective action or comment is needed.

- i. If YES, list and describe abandonment procedures:

RCRA GROUNDWATER MONITORING STATUS TABLE

Permit Fac. #	Fac. NOR Unit #	Name of Unit/WMA	Activity Status	Monitoring Status	Upgradient Wells/List	Downgradient Wells/List	Monitoring Frequency		
							Starting Date	Sampling Interval	Date of most Recent Sampling Event
008	010	AA / Landfill	CL	PCA, Monitored natural attenuation	BG well MW- 7	POC wells RW-1, MW-8, MW-9	7/1994	SA	May 29, 2003

Permit Fac. # = Unit No. as designated in the Permit (N/A if not applicable)

Fac. NOR # = Unit number as designated in the Notice of Registration (NOR) Wells in bold are screened in the +10 ft Sand Zone, normal font is shallow silt

Wells in bold italic are screened in the -30 ft sand zone

Activity Status: A = Active, CL = Certified Closed, I = Inactive

Monitoring Status: ID = 265 Detection Monitoring, IQ = 265 Assessment Monitoring, IA 265 Alternate or Partial waiver, PDM = 264 Detection Monitoring, PCM = 264 Compliance Monitoring, PCA = 264 Corrective Action Monitoring.

Upgradient/Downgradient wells: Indicate the number of wells and also list the wells for each unit or Waste Management Area (WMA)/Corrective Action Management Area (CAMU), POC = Point of Compliance wells for permitted units.

Sampling Interval: Quarterly (QTR), Semi-Annual (SA), Annual (A), Monthly (M), etc.

*** An entry in this column indicates corrective action or comment is needed.

2. Field Observation of Monitor Wells: [335.112(a)(5) / 265.91(a)&(c); 335.116(a) / 265.90(a); 335.163(1)&(3) / 264.97(a)&(c)]

a. General condition around monitor wells:

- i. Access maintained to well? N/A ☐ YES ☒ NO ☐
- ii. Are there any indications of herbicide, pesticide, or other chemical use near the well that could influence the quality of samples? N/A ☒ NO ☐ YES ☐
- iii. Are there "bumper poles/protector pipes" around the well to prevent collision damage where necessary? N/A ☒ YES ☐ NO ☐

COMMENT: The wells at the facility are flush mount.

- b. Is the monitor well identification number clearly visible? N/A ☐ YES ☒ NO ☐
- c. Is the monitor well equipped with a cap capable of being locked? N/A ☐ YES ☒ NO ☐
 - i. If not, are there other provisions for security of well? N/A ☒ YES ☐ NO ☐
 - ii. If applicable, describe: The facility perimeter is enclosed with security fencing. Security personnel are onsite at all times, site access is restricted.
- d. Monitor Well Casing:
 - i. Is there an outer protective casing? N/A ☐ YES ☒ NO ☐
 - ii. Is the casing in good condition? N/A ☐ YES ☒ NO ☐

e. Monitor Well Surface Pad:

- i. Does the monitor well have a surface pad? N/A ☒ YES ☐ NO ☐

COMMENT: Wells are flush mount, installed through a paved / concrete surface.

- ii. Are there indications of surface water infiltration down the borehole annulus? N/A ☒ NO ☐ YES ☐
- iii. If YES, describe the Company's actions to correct this condition:
(If applicable, document indications of damage to surface seal with photographs.)

COMMENT:

- f. Are water level measuring points permanently marked on each RCRA well? N/A ☐ YES ☐ NO ☒

COMMENT: Well MW-1 did not have a measuring point marked on the well. This was addressed as an Alleged Violation in the report, and was resolved after corrective action.

- g. Have water level measuring points been surveyed? N/A ☐ YES ☒ NO ☐
 - i. Date of most recent survey:

COMMENT: The wells were last surveyed in 1997.

- h. Complete the Well Dimension Table below for wells observed during this inspection.

a. Examine operator's records to make the following determinations:

i. For units in interim status detection monitoring or permitted status detection or compliance monitoring, does the operator evaluate the Ground-Water flow direction in the uppermost aquifer on at least an annual basis to verify well placement?

[335.112(a)(5) / 265.93(f); 335.164(5) / 264.98(e); 335.165(5) / 264.99(e)]

N/A ☒ YES ☐ NO ☐

ii. For units in interim status assessment monitoring, does the operator determine, on a quarterly basis, the Groundwater flow direction in the uppermost aquifer for use in determining the rate and direction of migration of hazardous constituents?

[335.112(a)(5) / 265.93(d)(7)]

N/A ☒ YES ☐ NO ☐

c. Describe operator's actions to address apparent well location errors in response to 40 CFR 265.93(f), 40 CFR 264.98(h), or 40 CFR 264.99(j) or permit or compliance plan provisions as applicable.

COMMENT: No apparent well location errors were noted.

Section C -- SAMPLING PROCEDURES

1. Sampling & Analysis Plan (SAP)[335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d) / or as per permit]:

a. Is a SAP maintained at the facility?

N/A ☐ YES ☐ NO ☒

Specify date of SAP evaluated during this inspection:

COMMENT: The sampling crew was not aware of a SAP. No SAP was found in the facility files. A sample and analysis plan dated "Revised April 1998" was obtained by the facility from the TCEQ Austin Central Records microfiche after the sampling event. The plan is included as **Attachment 7**.

b. Does the SAP address the following items:

i. Sample collection procedures?

N/A ☒ YES ☐ NO ☐

ii. Sample preservation & shipment?

N/A ☒ YES ☐ NO ☐

iii. Analytical procedures?

N/A ☒ YES ☐ NO ☐

iv. Chain of Custody procedures?

N/A ☒ YES ☐ NO ☐

c. Is the Company following the requirements of the SAP?

N/A ☒ YES ☐ NO ☐

COMMENT: See Section C.1.a. comment above.

2. Measurement of Water Depths: [335.112(a)(5) / 265.90(a); 265.91(a)(1)&(2); 335.163(1) / 264.97(a)]

a. Are measurements of depth to standing water in the well obtained prior to well evacuation?

N/A ☐ YES ☒ NO ☐

b. Are measurements taken to the nearest 0.01 foot?

N/A ☐ YES ☒ NO ☐

c. What device is used?

COMMENT: Heron Electronic interface probe.

d. Is the monitoring equipment properly cleaned between well locations to prevent cross-contamination?

COMMENT: The samplers were noted to decontaminate the equipment between wells with DI water and alcanox. Note no SAP was located at the facility.

N/A ☐ YES ☒ NO ☐

3. Measurement of Total Depth of Well:[335.112(a)(5) / 265.91(a)&(c); 335.163(1) / 264.97(a)&(c)]

a. Are measurements of the depth to the bottom of the well obtained?

N/A ☐ YES ☒ NO ☐

*** An entry in this column indicates corrective action or comment is needed.

b. How frequently are the measurements made?

COMMENT: Every sampling event.

c. What device is used?

COMMENT: Electric interface probe.

d. If total depth of well is found to be decreasing, what action is taken by the facility?

COMMENT: Unknown, no SAP was located for the facility.

4. Measurement & Sampling of Immiscible Layers (if applicable). [335.116(a) / 265.90(a); 335.112(a)(5) / 265.91(a)&(c); 335.163(1)(A) / 264.97(a)]

a. Are procedures used which will detect light phase immiscible layers? N/A ___ YES ___ NO ☒

COMMENT: Unknown, no SAP was located for the facility. An interface probe was used during the current sampling event, however the samplers used the instrument for depth to water only, and stated that none of the wells has napl.

b. Are procedures used which will detect heavy immiscible layers? N/A ___ YES ___ NO ☒

COMMENT: Unknown, no SAP was located for the facility. An interface probe was used during the current sampling event, however the samplers used the instrument for depth to water only, and stated that none of the wells has napl.

c. Are the detected immiscible layers sampled separately prior to well evacuation? N/A ☒ YES ___ NO ___

COMMENT: Unknown, no SAP was located for the facility.

d. Do the procedures used minimize mixing with water soluble phases? N/A ☒ YES ___ NO ___

COMMENT: Unknown, no SAP was located for the facility.

5. Well Evacuation. [335.116(a) / 265.90(a); 335.112(a)(5) / 265.91(a)&(c); 335.163(1)(A)&(3) / 264.97(a)&(c)]

a. Are wells evacuated to dryness or evacuated so that at least three casing volumes are removed? N/A ☒ YES ___ NO ___

COMMENT: The wells were sampled using low flow purging.

b. How is well volume to be evacuated calculated?

COMMENT: The samplers used known volume/foot for the casing size.

c. How is evacuated water measured?

COMMENT: Unknown, no SAP was located for the facility. The samplers used a five gallon bucket.

d. What device is used to evacuate the wells?

COMMENT: All wells are purged and sampled with a rented 12 volt downhole sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon Pump is a 12v centrifugal multistage pump that is unstable for sampling gas sensitive parameters such as dissolved gasses, VOCs, metals. This is addressed as an area of concern in the report

e. How is evacuated water disposed?

COMMENT: The evacuated water is poured in the facility's drum washing system. Contaminated groundwater

*** An entry in this column indicates corrective action or comment is needed.

is not on the list of Wastes Managed in Permitted Units, Permit Table IV.B. This was addressed as an Alleged Violation in the Report.

- f. If dedicated evacuation equipment is not used, is equipment thoroughly cleaned before the next use? N/A ☒ YES ☐ NO ☐

i. Describe decontamination procedures.

COMMENT: The samplers did not use a SAP.

- g. Is care taken to avoid placing clean evacuation equipment on the ground or other contaminated surfaces prior to insertion into the well? N/A ☐ YES ☒ NO ☐

6. Sample Withdrawal. [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

- a. How long does the operator allow the well to recover before sampling is conducted?

COMMENT: The sampling was conducted using low flow techniques.

- b. Are samples for volatiles and pH obtained first, after the well recovers? N/A ☐ YES ☒ NO ☐

- c. Sampling Device:

- i. Is the sampling device either a bottom valve bailer or a positive gas displacement bladder pump (Check one)? N/A ☐ YES ☐ NO ☒

BOTTOM VALVE BAILER ☐

POSITIVE GAS DISPLACEMENT BLADDER PUMP ☐

COMMENT: All wells are purged and sampled with a rented downhole 12 volt sample pump. The samplers stated that the pump was a "Typhoon Pump". The Typhoon pump is a 12v centrifugal multistage pump that is unstable for sampling gas sensitive parameters such as dissolved gasses, VOCs, metals. This is addressed as an area of concern in the report

- 1) Specify composition of sampling device

COMMENT: New PVC tubing from the pump to the surface.

- 2) Describe sampling device if other than one of the two mentioned above.

- ii. If bailers are used, describe the composition of wire/rope used to raise and lower the bailer.

COMMENT: N/A

Is this material dedicated or new for each well?

DEDICATED ☐ NEW ☐

- iii. Is care taken to avoid placing clean sampling equipment on the ground or other contaminated surfaces prior to insertion into the well? N/A ☐ YES ☒ NO ☐

- iv. Describe storage procedures for sampling equipment between sampling events.

COMMENT: Sampling equipment is not stored on-site. All equipment used in non dedicated.

- d. Non-Dedicated Sampling Equipment:

- i. If non-dedicated sampling equipment is used, is equipment disassembled and thoroughly cleaned between samples? N/A ☐ YES ☐ NO ☒

- ii. Describe decontamination procedures.

COMMENT: The pump was rinsed with DI and alcanox.

- iii. Are equipment blanks taken to ensure that sample cross-contamination has not occurred?

N/A ☐ YES ☒ NO ☐

COMMENT:

- e. If volatile samples are taken with a positive gas displacement bladder pump, are pumping rates below 100 ml/min?

N/A ☒ YES ☐ NO ☐

- f. If bailers are used:

- i. Are they lowered slowly to prevent de-gassing of the water?

N/A ☒ YES ☐ NO ☐

- ii. Are the contents transferred to the sample container in a way that will minimize agitation and aeration?

N/A ☒ YES ☐ NO ☐

7. Field analyses: [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

- a. Which of the following chemically unstable parameters are determined in the field?

- i. pH?

N/A ☐ YES ☒ NO ☐

- ii. Temperature?

N/A ☐ YES ☒ NO ☐

- iii. Specific conductivity?

N/A ☐ YES ☒ NO ☐

- iv. Other (specify) (a rented flow cell and spot sampling is also used to measure Turbidity, oxygen reduction potential, and dissolved oxygen)

N/A ☐ YES ☒ NO ☐

- b. Are in-situ determinations made BEFORE (☐) or AFTER (☒) well purging?

- c. Are in-situ determinations made BEFORE (☒) or AFTER (☐) well sampling?

Describe parameters for in-situ determinations:

COMMENT: pH- standard units, Temperature Deg. C., Specific conductivity μ S, dissolved oxygen mg/l, oxygen reduction potential volts, turbidity ntu.

- d. Is measuring equipment calibrated according to manufacturers' specifications and consistent with SW-846?

N/A ☐ YES ☒ NO ☐

- e. Is the equipment calibration date, procedure, and maintenance documented in the field logbook?

N/A ☐ YES ☐ NO ☒

COMMENT: The flow through cell was rented. The equipment was rented and calibrated two days before the sampling event by the rental service. The equipment was not recalibrated the day of the sampling event by the sampling crew. This is addressed as an area of concern in the report.

8. Sample containers: [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

- a. Are samples transferred from the sampling device directly to their containers? N/A ☐ YES ☒ NO ☐

- b. Are sample containers for metals analysis polyethylene with polypropylene caps? N/A ☒ YES ☐ NO ☐

- c. If glass bottles are used for metals samples, are the caps Teflon-lined? N/A ☒ YES ☐ NO ☐

- d. Are the sample containers for metals analysis cleaned using the following sequential steps? N/A ☒ YES ☐ NO ☐

If different procedures are used, describe:

*** An entry in this column indicates corrective action or comment is needed.

COMMENT: All samples are collected in new certified sterile containers provided by the laboratory.

e. Are sample containers for organics analysis glass bottles with Teflon-lined caps? N/A ☐ YES ☒ NO ☐

f. Are sample containers for organics analysis cleaned using the following sequential steps? YES ☐ NO ☐
Nonphosphate detergent; tap water rinse; pesticide-grade hexane or methanol rinse;
acetone rinse; distilled/deionized water rinse.
If different procedures are used, describe.

COMMENT: All samples are collected in new certified sterile containers provided by the laboratory.

g. Is a trip blank prepared and analyzed for samples being analyzed for volatile organics? N/A ☐ YES ☒ NO ☐

COMMENT: The trip blank was not listed on the original COC, but was added by the laboratory. See COCs included in Attachment 5, and Attachment 5 page 36 of laboratory report "Sample Receipt Variance Form". This was addressed as an area of concern in the report.

h. Is at least one field duplicate prepared for each batch of samples? N/A ☐ YES ☐ NO ☒

COMMENT: No duplicate sample was prepared for the sample event, this was addressed as an area of concern in the report.

9. Sample preservation procedures: [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. Are all samples refrigerated or cooled immediately after sampling? N/A ☐ YES ☒ NO ☐

b. Are samples for metals/radioactivity analysis acidified to pH < 2 with HNO₃? N/A ☒ YES ☐ NO ☐

c. Are samples for the following analyses acidified to pH < 2 with H₂SO₄:
total phenolics; oil and grease; nitrate/nitrite; other? N/A ☐ YES ☒ NO ☐
Describe other:

d. Is the sample for TOC analysis acidified to pH < 2 with HCl or H₂SO₄? N/A ☒ YES ☐ NO ☐

e. Is the sample for TOX analysis preserved with 1 ml of 1.1 M sodium sulfite? N/A ☒ YES ☐ NO ☐

f. Is the sample for cyanide analysis preserved with NaOH to pH > 12? N/A ☒ YES ☐ NO ☐

g. Are samples preserved in the field at the time of sampling? N/A ☒ YES ☐ NO ☐
If no, describe: All sample containers are prepared with the appropriate preservative at the offsite laboratory prior to sampling.

h. Describe any different procedures used, or required, not covered in the above items: N/A

10. Special handling considerations [335.116(a) / 265.90(a) & 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

a. Are organic samples handled without filtration? N/A ☐ YES ☒ NO ☐

b. Are samples for volatile organics analysis collected such that all headspace over the sample is eliminated? N/A ☐ YES ☒ NO ☐

c. If samples are analyzed for dissolved metals:
i. Are they filtered prior to preservation in the field with HNO₃ to pH < 2; N/A ☒ YES ☐ NO ☐

- ii. Are they not preserved in the field and filtered in the lab? N/A ☒ YES ☐ NO ☐
- ii. If the sample is to be analyzed for total metals, is it unfiltered and preserved with HNO₃ to pH < 2? N/A ☒ YES ☐ NO ☐

Section D -- REVIEW OF CHAIN-OF-CUSTODY PROCEDURES

1. Sample labels [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]
- a. Are sample labels used? YES ☒ NO ☐
- b. Do they provide the following information:
- i. Sample identification number? YES ☒ NO ☐
 - ii. Name of collector? YES ☒ NO ☐
 - iii. Date and time of collection? YES ☒ NO ☐
 - iv. Place of collection? YES ☒ NO ☐
 - v. Parameter(s) requested for analysis? YES ☒ NO ☐
- c. Do they remain legible even when wet? YES ☒ NO ☐
2. Sample seals [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]
- a. Are sample seals placed on each shipping container or individual sample bottle to ensure that samples are not altered? YES ☒ NO ☐
3. Review the operator's field log book. Does it document all aspects of the sampling event? YES ☐ NO ☒
- COMMENT: The Field note sheets used by the samplers were partially completed. This was addressed as an alleged violation section of the report. See Attachment 11.
4. Chain-of-custody record / sample analysis request sheet [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)],
- a. Is a chain-of-custody record prepared for each sample? YES ☒ NO ☐
- b. Does it document the following:
- i. Sample number? YES ☒ NO ☐
 - ii. Signature of collector? YES ☐ NO ☒
 - iii. Date and time of collection? YES ☒ NO ☐
 - iv. Sample type? YES ☒ NO ☐
 - v. Identification of well? YES ☒ NO ☐
 - vi. Number of containers? YES ☒ NO ☐
 - vii. Parameters requested? YES ☒ NO ☐
 - viii. Preservatives used? YES ☐ NO ☒
 - ix. Signatures of persons involved in the chain-of-possession? YES ☒ NO ☐
 - x. Inclusive dates of possession? YES ☒ NO ☐
 - xi. Laboratory sample number (if different than field number)? N/A ☒ YES ☐ NO ☐

COMMENT: The COC included as Attachment 5 to this report contains the samplers printed names only. The COC does not indicate what preservatives were added to the samples. This was addressed as an area of concern in the report.

- c. Include example of chain-of-custody form or tag as Attachment 5.

*** An entry in this column indicates corrective action or comment is needed.

Section E -- REVIEW OF ANALYTICAL PROCEDURES

1. From the Sampling and Analysis Plan, include a tabulation of analytical methods used for Groundwater samples as **Attachment 7**. Indicate directly on the Attachment which analyses are performed at: off-site contract laboratory (*); on-site operator laboratory (**); field measurement (***).

COMMENT: No SAP was found for the facility.

2. Laboratory analysis procedures [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]
- a. Are all samples analyzed using an EPA-recommended method (SW-846 or other EPA recommended procedures)? YES ☒ NO ☐
 - b. Are appropriate QA/QC measures used in laboratory analysis (e.g., blanks, spikes, standards)? YES ☒ NO ☐
 - c. Are detection limits and percent recovery (if applicable) provided for each parameter? YES ☒ NO ☐
 - d. If a different analytical method or laboratory is used, are split samples run for comparison purposes? N/A ☒ YES ☐ NO ☐
 - e. Describe any data inconsistencies and how the operator has tried to resolve them: N/A
 - f. Are samples analyzed within specified holding times? YES ☒ NO ☐
 - g. What is the sample analysis turn-around time (i.e., the time required to receive analytical results from the laboratory)? Less than four weeks
 - h. Example of analytical results and/or QA/QC results as reported by the laboratory to the operator -
3. Laboratory logbook N/A ☒
 [335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]
 (Delete if N/A)

Section F -- REVIEW OF QUALITY ASSURANCE/QUALITY CONTROL

[335.116(a) / 265.90(a); 335.112(a)(5) / 265.92(a); 335.163(4) / 264.97(d)]

1. Does the QA/QC program include:
- a. Documentation of any deviations from approved procedures YES ☒ NO ☐
 - b. Collection and analysis of trip blanks, field blanks and equipment blanks? YES ☐ NO ☒
- COMMENT: No field blank was taken, This is addressed as an area of concern in the report.
- c. Documentation of analytical results for:
 - i. Laboratory blanks? YES ☒ NO ☐
 - ii. Standards? YES ☒ NO ☐
 - iii. Duplicates? YES ☒ NO ☐
 - iv. Other (specify) _____ N/A ☒ YES ☐ NO ☐

*** An entry in this column indicates corrective action or comment is needed.

2. Are field QC samples compared with field sample results?
(NOTE: If concentrations in blanks are greater by an order of magnitude than the field samples, then resampling is recommended.) YES ☒ NO ☐
3. Does the operator critically examine the results to ensure that they have been properly calculated and reported? YES ☒ NO ☐
4. Is the validity and reliability of the laboratory and field generated data ensured by a QA/QC program? YES ☒ NO ☐

Section G -- RECORD-KEEPING AND RESPONSE

1. Interim Status Detection Monitoring N/A ☒
2. Interim Status Assessment Monitoring N/A ☒
3. Permitted Status Detection Monitoring N/A ☒
4. Permitted Status Compliance Monitoring N/A ☒
5. Permitted Status Corrective Action Program N/A ☐
(Delete Section G.5., if N/A)
- a. If a corrective action program is required by the permit/compliance plan, is the facility compliant with all requirements of the corrective action program as specified in the permit/compliance plan, including the following:
- i. Are RCRA Units in compliance with the ground water protection standard (GWPS), beyond the point of compliance? N/A ☐ YES ☐ NO ☒
COMMENT: See comment under section C.3.a.ii above.
- ii. Does the corrective action program prevent hazardous constituents from exceeding their respective concentration limits? N/A ☐ YES ☐ NO ☒
COMMENT: See comment under section C.3.a.ii above.
- iii. Did the facility begin corrective action within a reasonable time after the GWPS was exceeded? N/A ☐ YES ☐ NO ☒
COMMENT: See comment under section C.3.a.ii above.
- iv. Has a ground water monitoring program been implemented to demonstrate the effectiveness of the corrective action program? N/A ☐ YES ☒ NO ☐

**CME INSPECTION REPORT
SAMPLE ANALYSES RESULTS CHECKLIST**

Facility Name: Safety-Kleen Systems, Missouri City FacilityDate Sampled: May 29, 2003**Section A -- Analytical Results**

Two wells were selected to be co-sampled with the contract personnel retained by SK, wells MW-1, and MW-2. The wells were selected as down gradient wells in the uppermost aquifer. The sampling was conducted on May 29, 2003. The TCEQ analysis consisted of Volatile Organic Compounds VOC, by method 8260B, and total RCRA metals (unfiltered) via method 6010B, and 7470A for mercury. The facility's analysis consisted of nitrate and sulfate by method 9056, and chlorobenzene and xylene by method 8260B. The facility and agency sample analysis compared favorably for wells MW-1 and MW-2, with the Agency's analysis showing chlorobenzene in well WM-2 of 10.4 parts per billion (ug/l), and the facility's analysis for the wells showing 13 ug/l. The facility is conducting monitored natural attenuation under the compliance plan. Current concentrations were compared to historic concentration for the monitoring wells from the initiation of MNA (September 30, 1998), **See Attachment 4**. Well MW-3 first detected chlorobenzene on May 24, 2002. The well has detected increasing concentrations of the constituent for the last three sampling events. Well MW-2 had non detects for chlorobenzene for the last two sampling events, but detected chlorobenzene on the current sampling event. Wells MW-8, and MW-9 may also show increasing levels of chlorobenzene from the date that active groundwater remediation ceased. The increasing levels of chlorobenzene in the wells, and the fact that no well exists between either well MW-2 or MW-3 and the facility's property line is addressed in the alleged violations section of this report.

The facility's Chain of Custody (COC) forms and sample analysis results are included as **Attachment 5**. TCEQ COC forms, and sample analysis results are included as **Attachment 4**.

1. Include analytical results of TCEQ samples as **Attachment 4**.
2. Include copies of Chain of Custody Tags for TCEQ samples as **Attachment 4**.
3. Include Facility Operator analytical results and a summary as **Attachment 5**.
4. Include copies of Chain of Custody Tags for Facility Operator samples as **Attachment 5**.

Section B -- Comparison of Analytical Results

1. Do TCEQ results confirm operators results? NA YES ✓ NO
If NO, describe apparent discrepancies between data sets and discuss possible sources of error.

2. Compare data sets to historical results. Note any parameters which do not occur within previously observed ranges.

COMMENT: See comment under Section A. above.

3. Releases to ground water, for WMUs under detection monitoring: N/A ✓
4. Releases to ground water, for WMUs under assessment monitoring: N/A ✓
 - a. Were increases in hazardous constituents or indicators of hazardous constituents detected by

*** An entry in this column indicates corrective action or comment is needed.

TCEQ sample analysis?

N/A ☒ NO ☐ YES ☐

If YES, identify unit and constituents.

- b. Has operator detected increases in hazardous constituents or indicators of hazardous constituents in the ground-water?

N/A ☐ NO ☐ YES ☒

If YES, identify unit and constituents.

COMMENT: Chlorobenzene from permit Unit AA.

5. Releases to ground water, for WMUs under compliance monitoring:

- a. Was the ground water protection standard exceeded in the TCEQ sample analysis? N/A ☐ NO ☐ YES ☒

Comment: Yes, See **Attachment 4 for TCEQ sample analysis results.**

- b. Was the ground water protection standard exceeded in the operator's sample analysis? N/A ☐ NO ☐ YES ☒

COMMENT: Yes, see comment a. above.

LIST OF ATTACHMENTS

- ATTACHMENT 1 - Site Location and Unit Location Maps
- ATTACHMENT 2 - Cross Sections
- ATTACHMENT 3 - Potentiometric Maps
- ATTACHMENT 4 - TCEQ Chain of Custody (COC), Sample Analysis Results
- ATTACHMENT 5 - Facility Chain of Custody (COC), Sample Analysis Results
- ATTACHMENT 6 - Well Construction Details
- ATTACHMENT 7 - Sample Analysis Plan
- ATTACHMENT 8 - Notice of Registration
- ATTACHMENT 9 - Compliance Plan
- ATTACHMENT 10 - Facility Correspondence
- ATTACHMENT 11 - Field Notes

ATTACHMENT 1

Site Location and Unit Location Maps

15,000 GAL
USED MINERAL SPIRITS
UNDERGROUND TANK

15,000 GAL
FRESH MINERAL SPIRITS
UNDERGROUND TANK

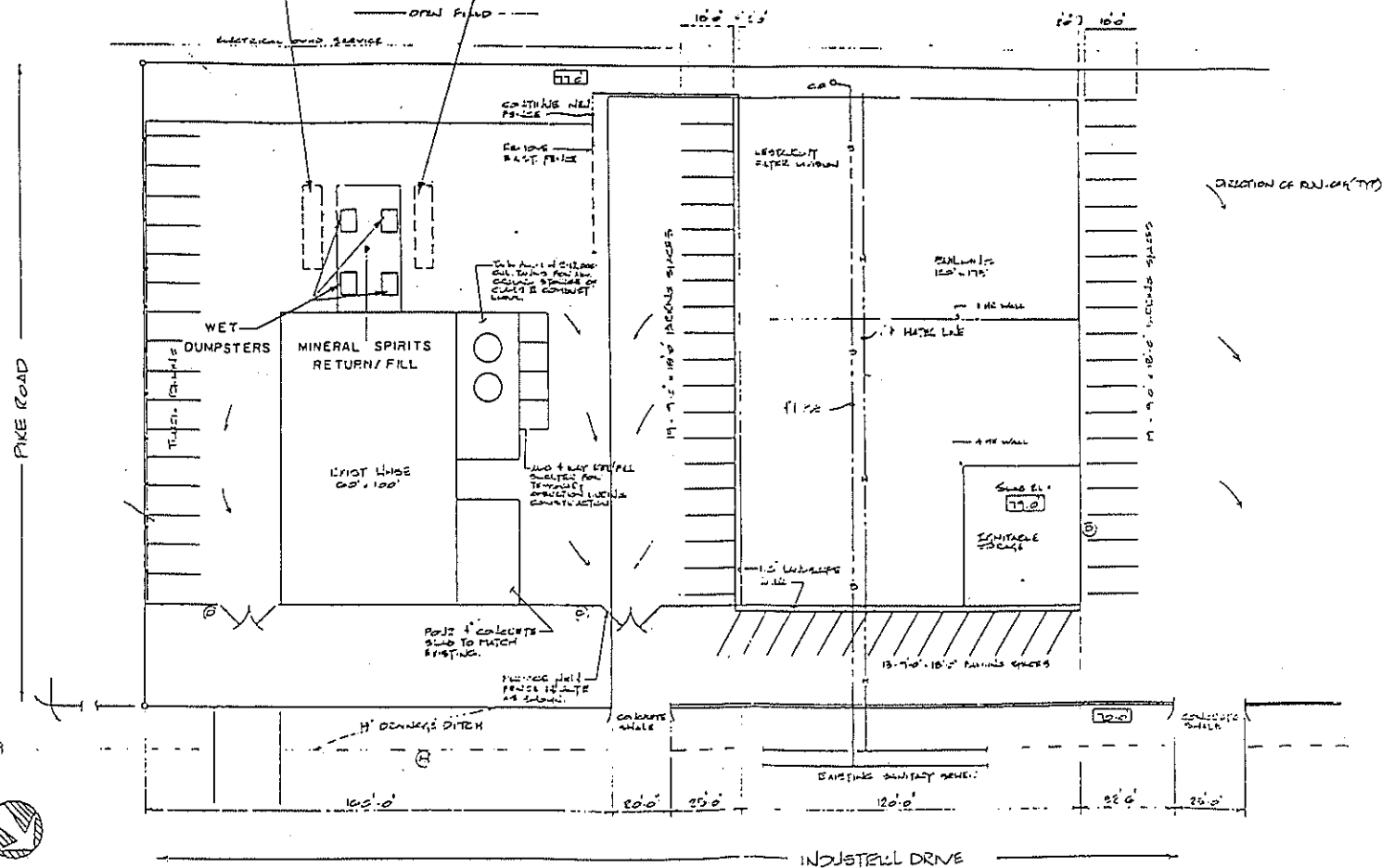


EXHIBIT I

S **SHAW-WALKER CORP.**

SITE PLAN

DATE	1-22
BY	WLB
CHECKED	
DATE	

DESIGNED BY: [Signature]

DATE: 1-22

SWR 71144 Permit 50236

ATTACHMENT 2

Cross Sections

A-
Safety-Kleen
Missouri City
mw-5

Cross Section A-A

See 7/1/44

0 25' -
Approx scale

clay
silt
sand

-1 - 5/24/02 @ 12V,
-2 - 11/26/02 @ 12V
-3 - 5/29/03 @ 12V Δ

McLean

entry card

AND

mw-9 mw-1

Unit AA

H
W
Z
O
N

II
ZONE

ZONE III

Row 1

2-14-53

75W
+75'

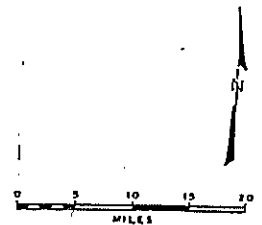
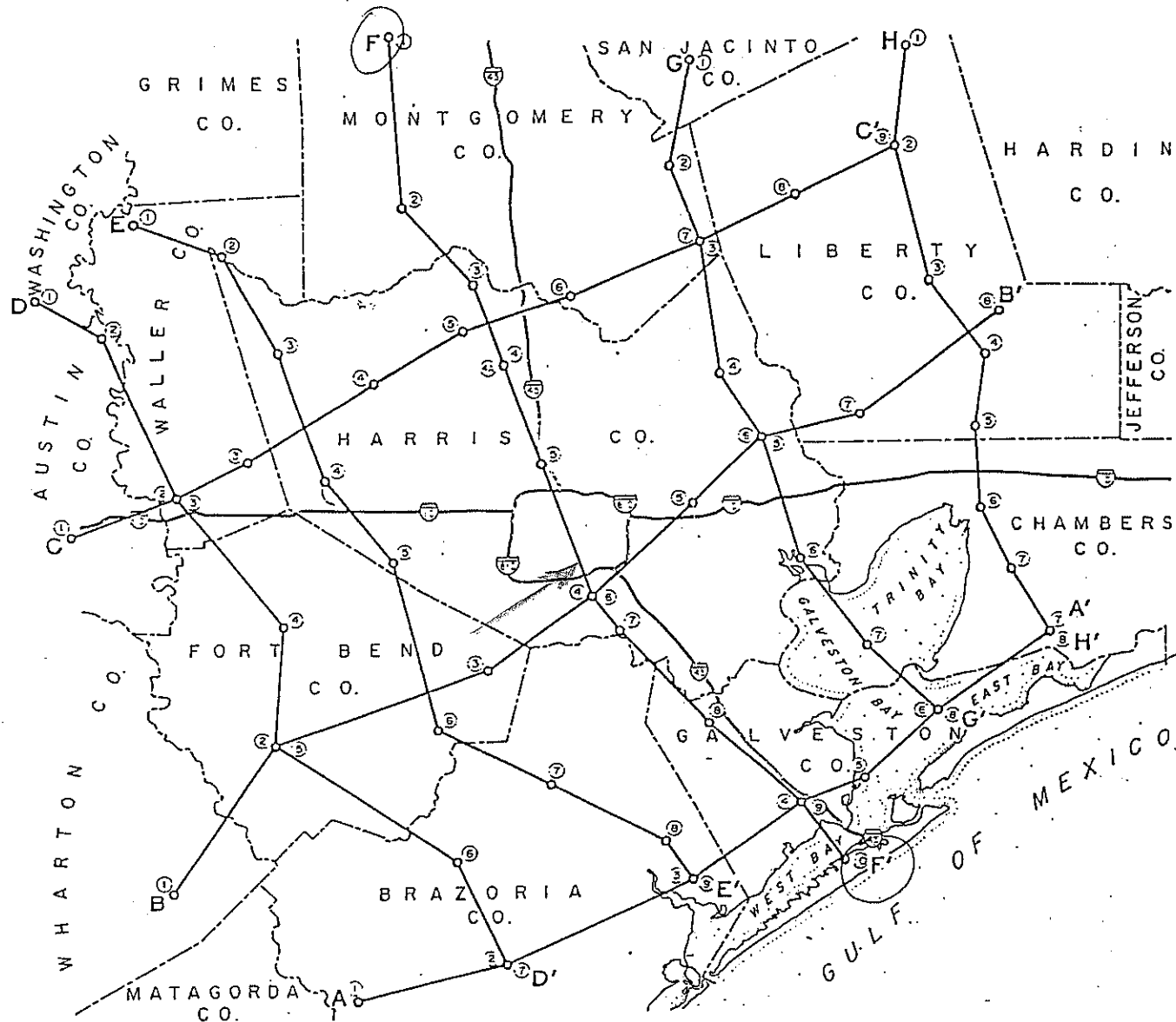
470, +

5

60

155

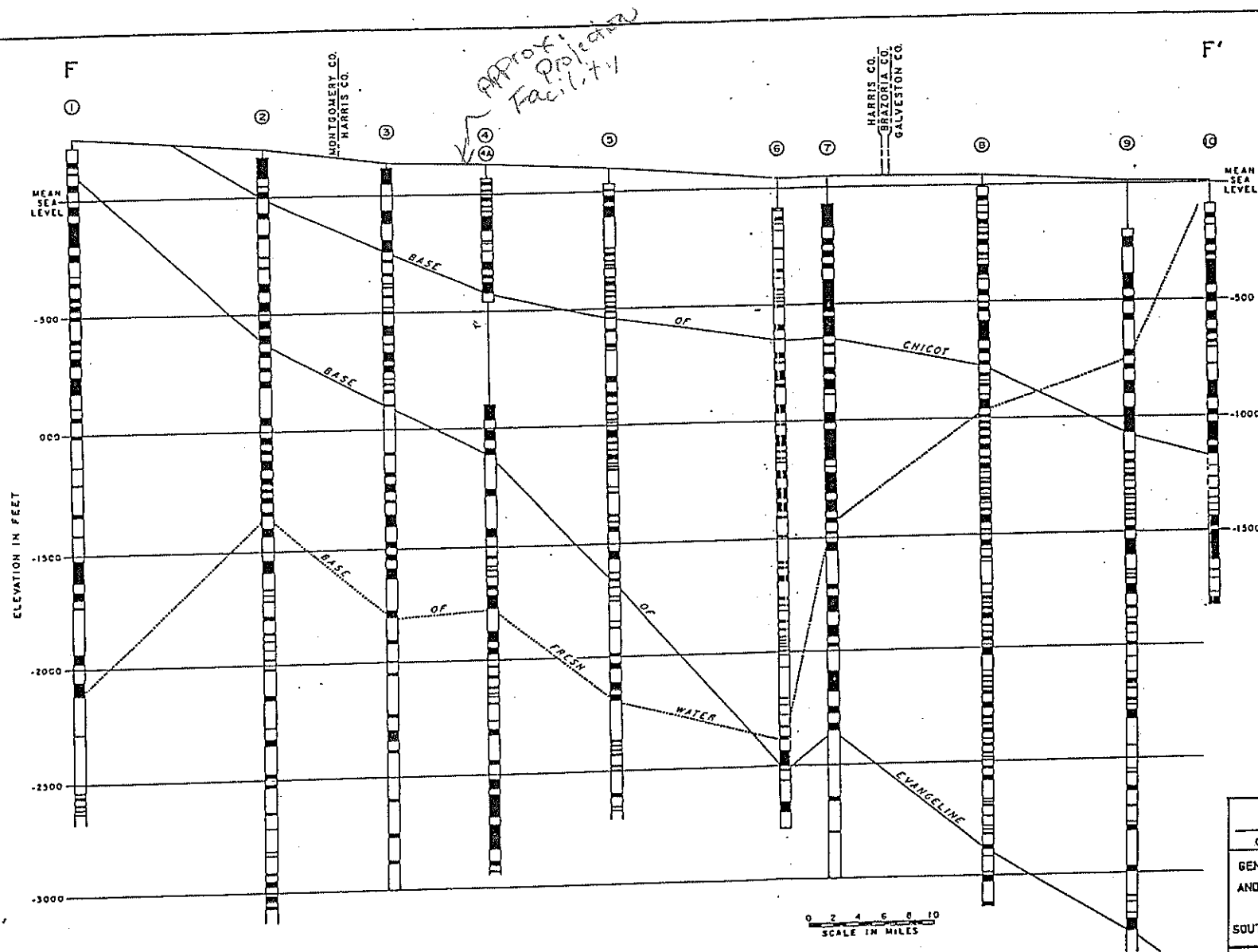
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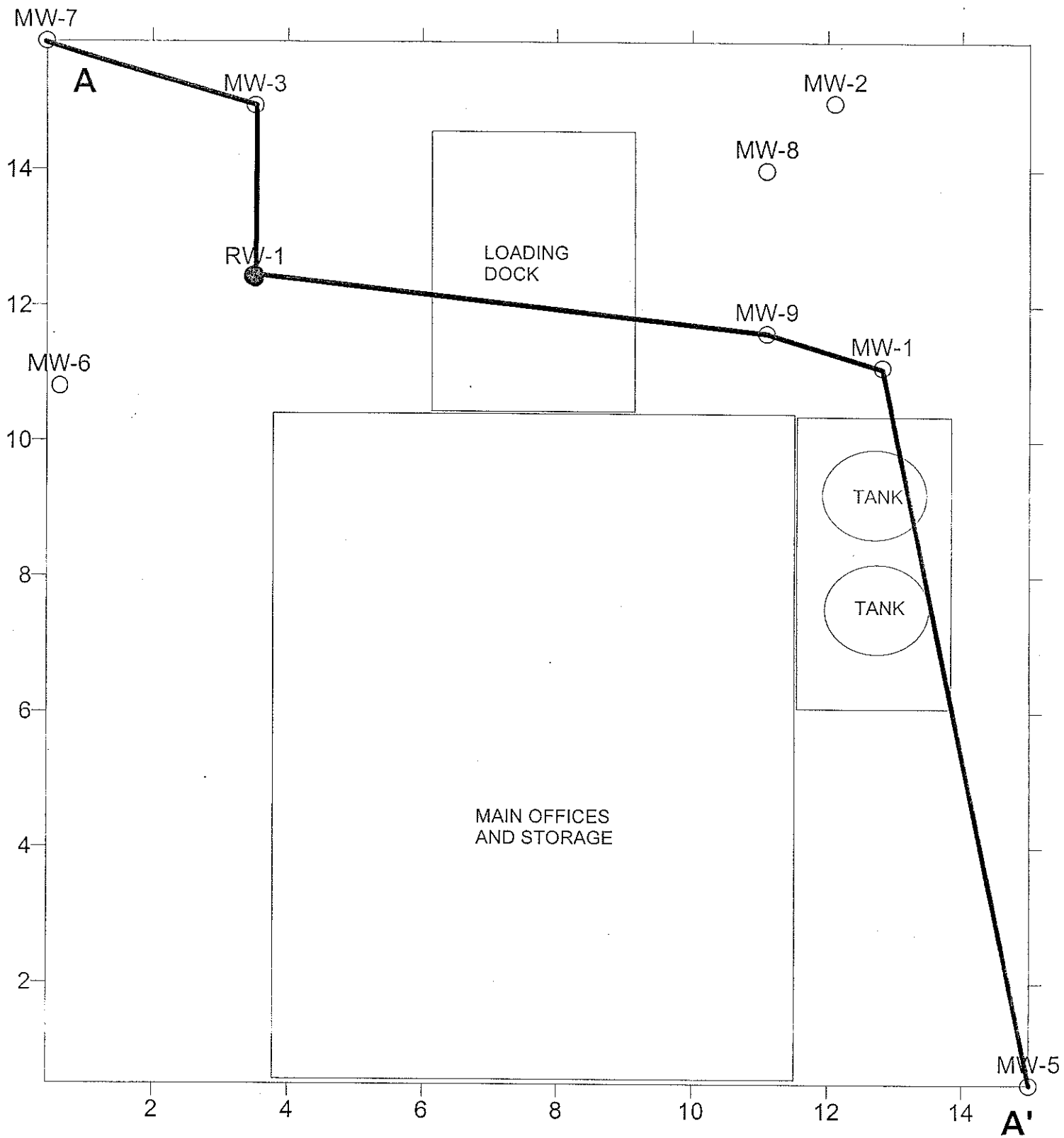
Adapted from: HGCSO Water Resource
Management Program Phase I

GEO ASSOCIATES		
Geotechnical Engineering & Groundwater Hydrology		
LOCATION OF GEOLOGIC SECTION F-F'		
ENGLEWOOD YARD		
SOUTHERN PACIFIC ENVIRONMENTAL		
SYSTEMS, INC.		
NO.	DATE	EXHIBIT NUMBER
241	APRIL 1991	11

SWR ~~71144~~
71144



SWR 71144



Line of Cross Section A - A'



APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

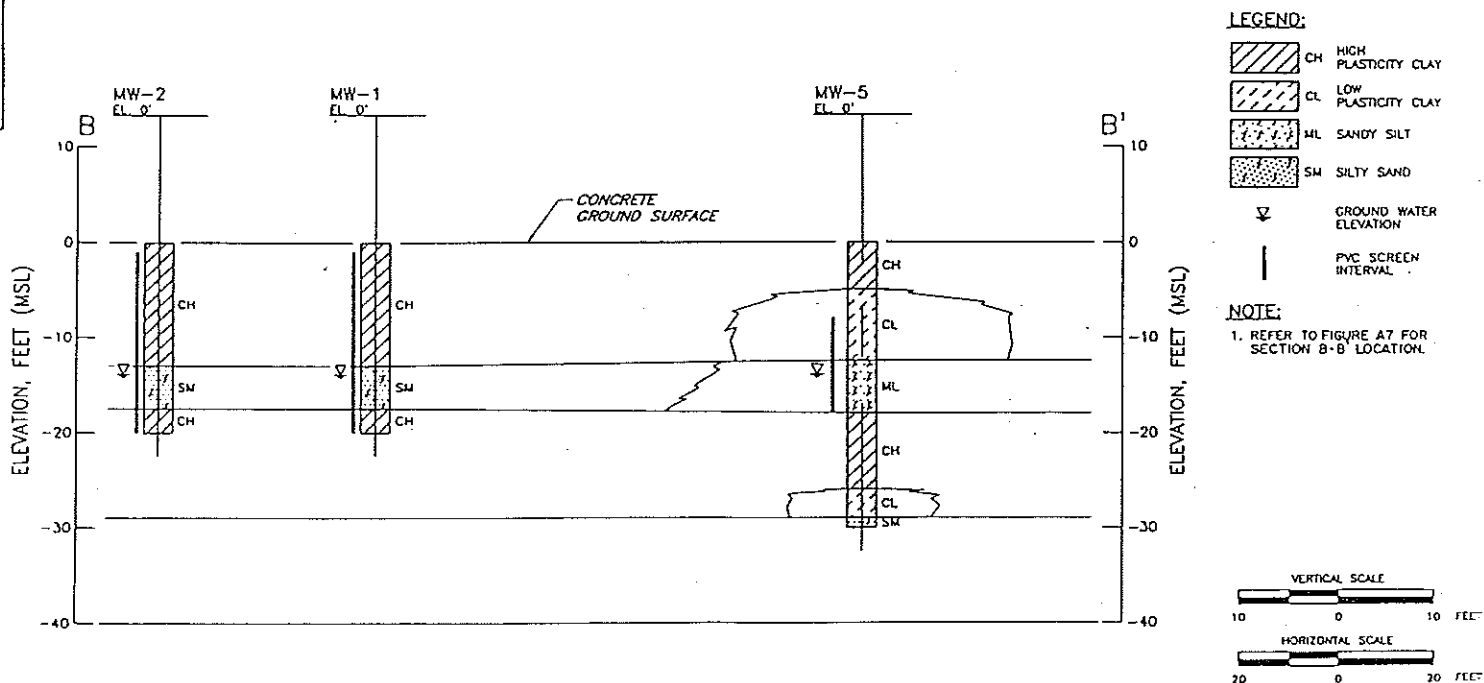
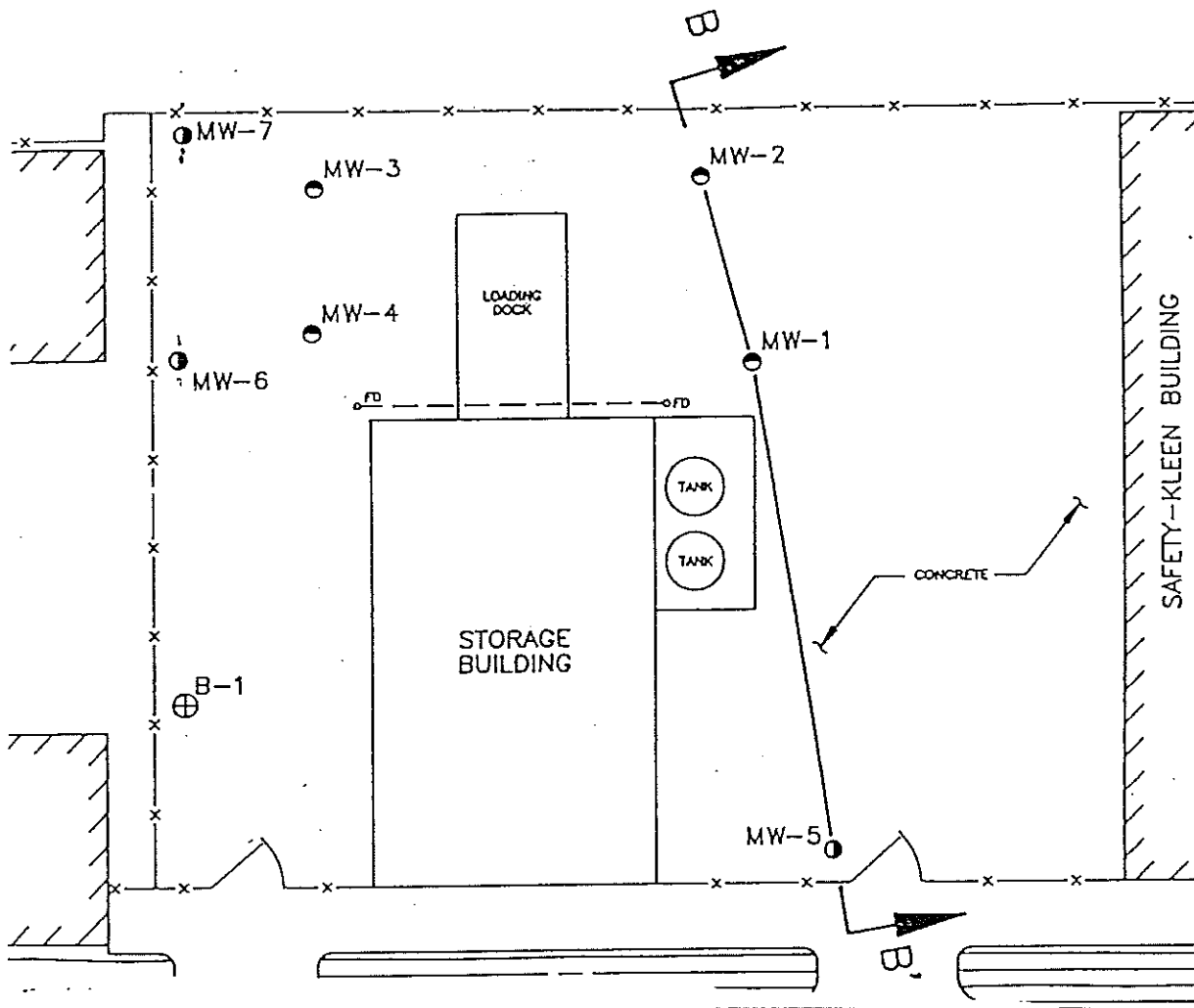
FORMER RECOVERY WELL



MONITOR WELL



GW ELEVATION



HYDROGEOLOGIC
CROSS SECTION B-B'
MISSOURI CITY, TEXAS
PREPARED FOR
SAFETY-KLEEN, INC.
ELGIN, ILLINOIS

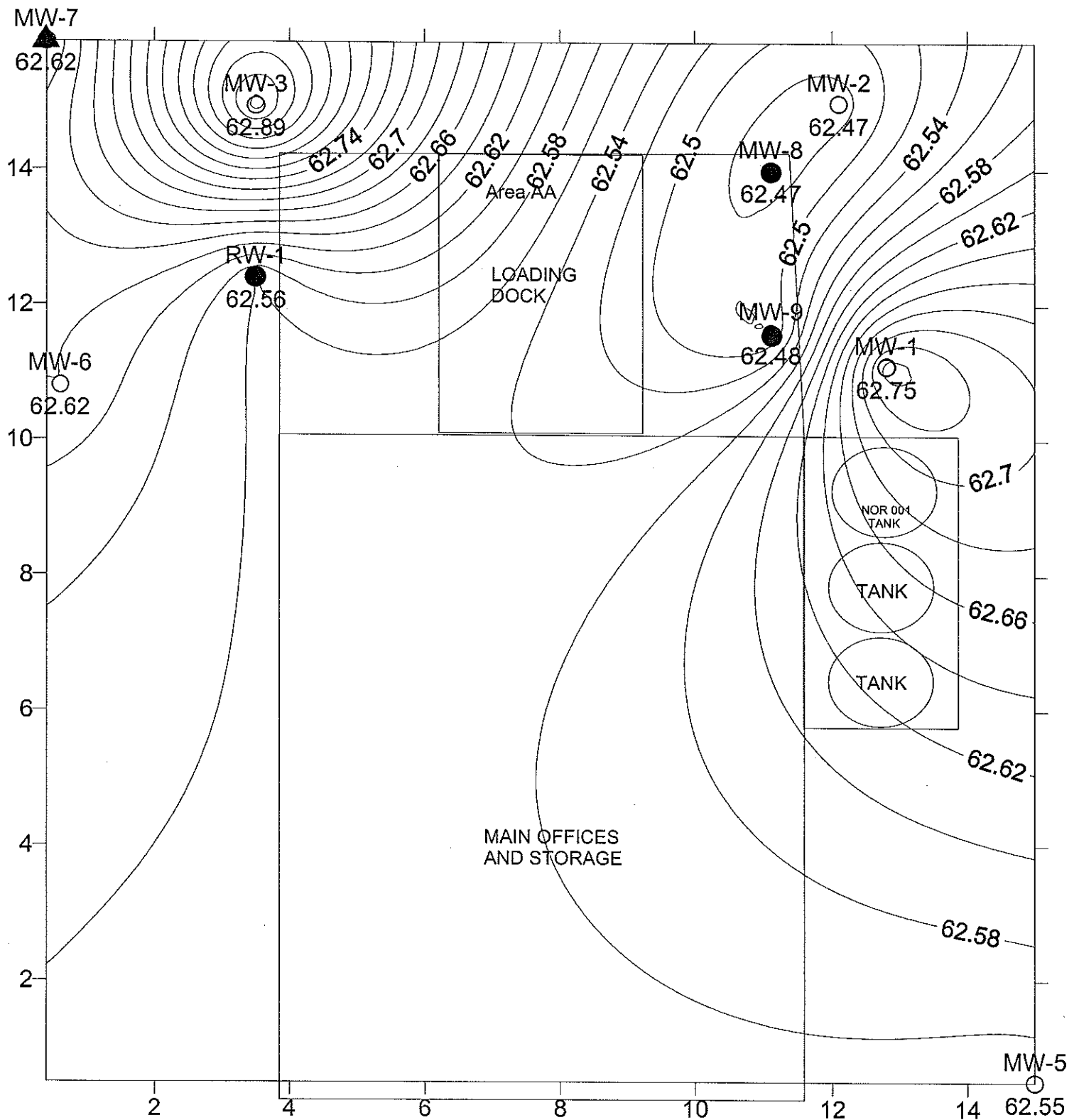
Canonte Environmental

DRAWING NUMBER 91-451-B48

Groundwater Elevation Data
Former Safety-Kleen Service Center
1580 Industrial Road, Missouri City Texas

Location ID	Gauging Date	Old Survey TOC Elevation	New Survey TOC Elevation	Survey Difference Feet	Depth to Water (feet)	Old Groundwater Elevation	Corrected Groundwater Elevation
MW-1	05/24/02				12.62	61.40	
	11/26/02				10.96	63.06	
MW-2	05/29/03	74.02	74.25	-0.23	11.50	62.52	62.75
	05/24/02				12.63	61.45	
	11/26/02				11.00	63.08	
MW-3	05/29/03	74.08	74.11	-0.03	11.64	62.11	62.47
	05/24/02				12.78	61.09	
	11/26/02				11.13	62.74	
MW-5	05/29/03	73.87	74.76	-0.89	11.87	62.02	62.89
	05/24/02				12.10	61.43	
	11/26/02				10.42	63.11	
MW-6	05/29/03	73.53	73.67	-0.14	11.12	62.41	62.55
	05/24/02				13.33	61.57	
	11/26/02				11.64	63.26	
MW-7	05/29/03	74.90	75.02	-0.12	12.40	62.50	62.62
	05/24/02				13.69	61.61	
	11/26/02				12.10	63.20	
MW-8	05/29/03	75.30	75.39	-0.09	12.77	62.53	62.62
	05/24/02				12.58	61.40	
	11/26/02				10.86	63.12	
MW-9	05/29/03	73.98	73.98	0	11.51	62.47	62.47
	05/24/02				12.42	61.43	
	11/26/02				10.75	63.10	
RW-1	05/29/03	73.85	73.9	-0.05	11.42	62.43	62.48
	05/24/02				12.51	61.61	
	11/26/02				10.84	63.28	
	05/29/03	74.12	74.15	-0.03	11.59	62.53	62.56

Old Survey elevations are by 1997 survey
New Survey elevations are by June 24, 2003 survey



CORRECTED GROUNDWATER ELEVATIONS
05/29/2003

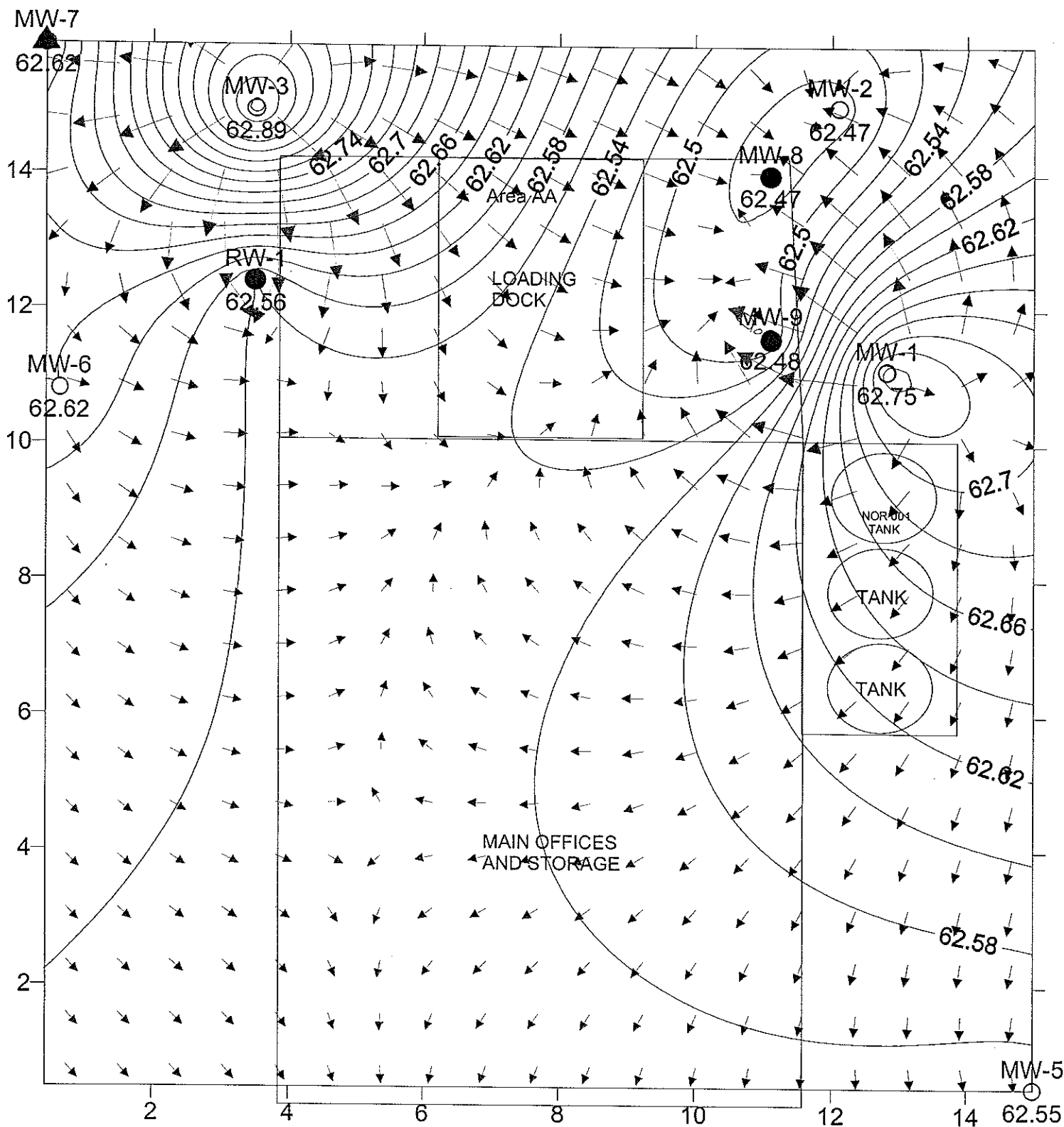
0 25
APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

● Point of Compliance well
▲ Background Well

Well ID
○
GROUNDWATER ELEVATION



CORRECTED VECTOR MAP
05/29/2003

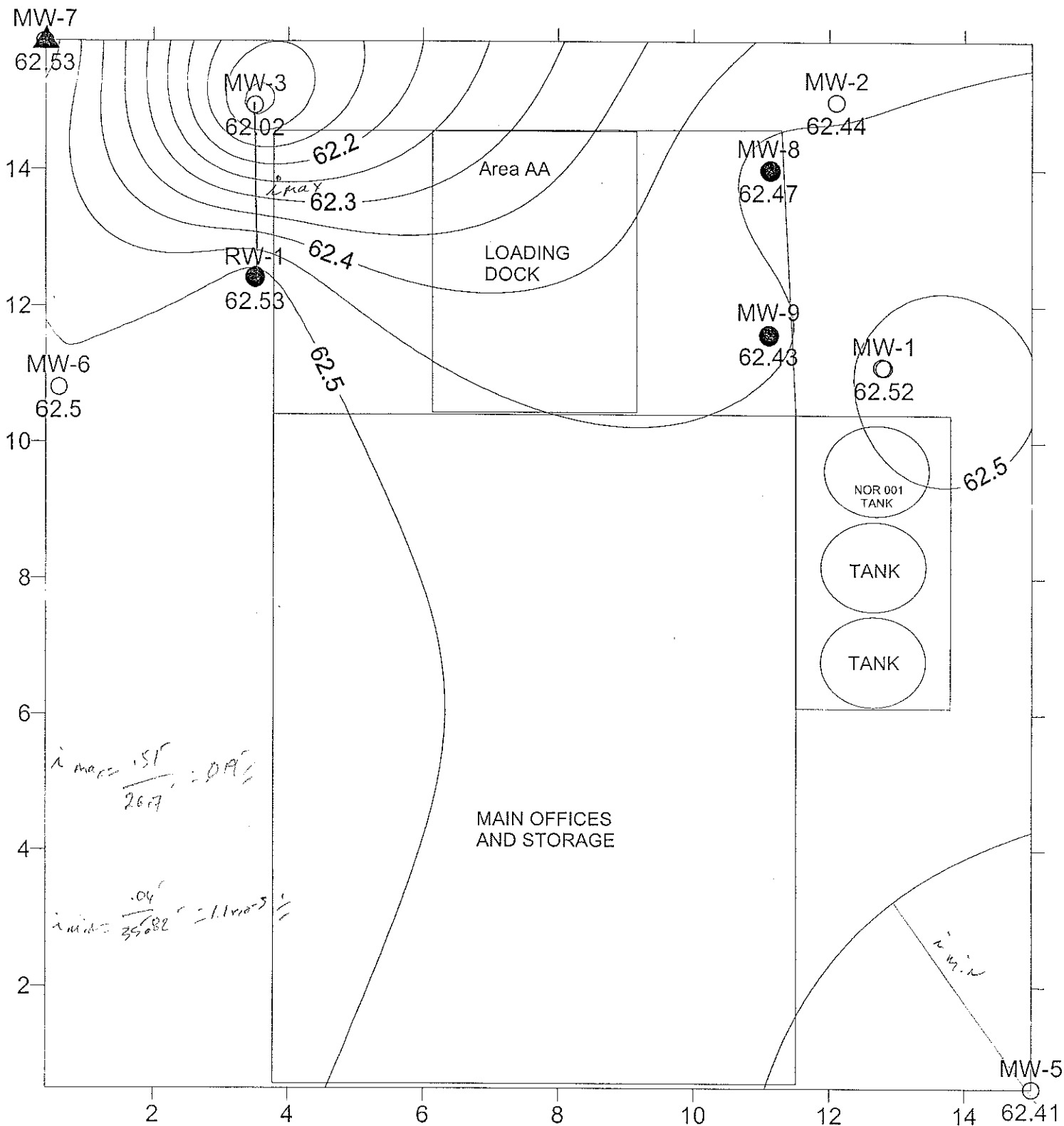
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APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

● Point of Compliance well
▲ Background Well

Well ID
○
GROUNDWATER ELEVATION



GROUNDWATER ELEVATION
05/29/2003

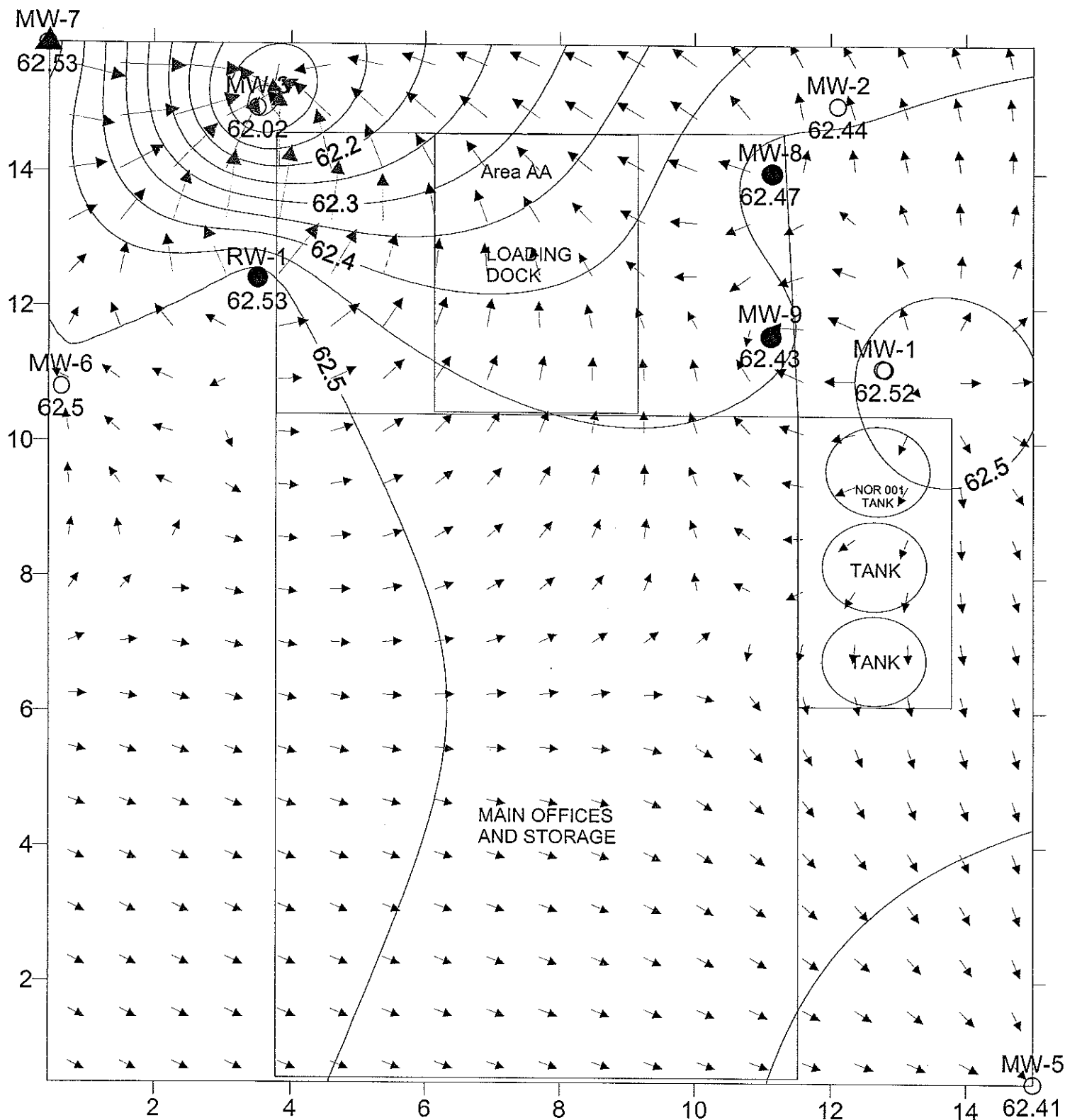
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APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

● Point of Compliance well
▲ Background Well

Well ID
○
GW ELEVATION



GROUNDWATER ELEVATION / VECTOR MAP

05/29/2003

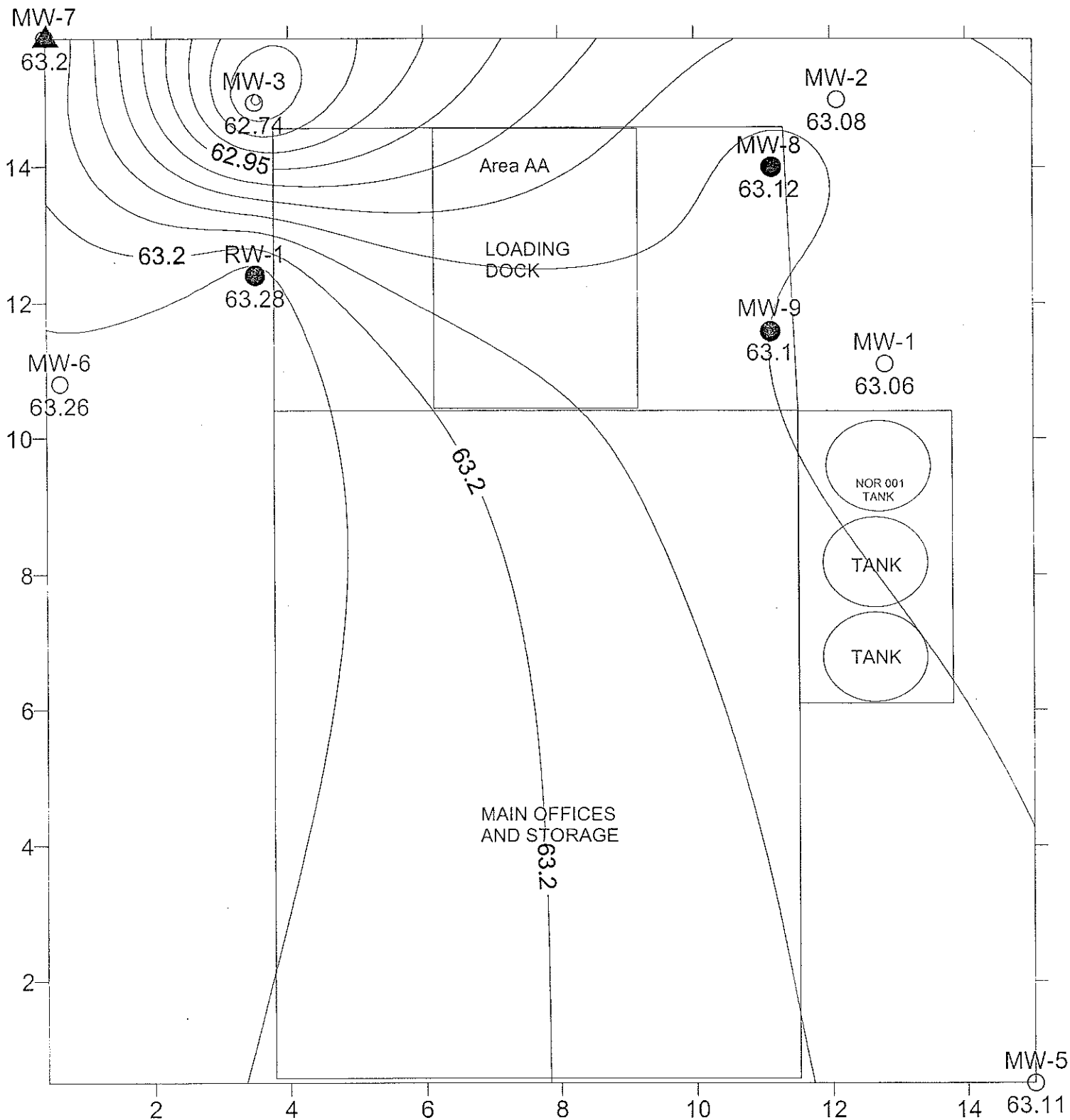
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APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

● Point of Compliance well
▲ Background Well

Well ID
○
GW ELEVATION



GROUNDWATER ELEVATION
11/26/2002

0 25
APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236



Point of Compliance well

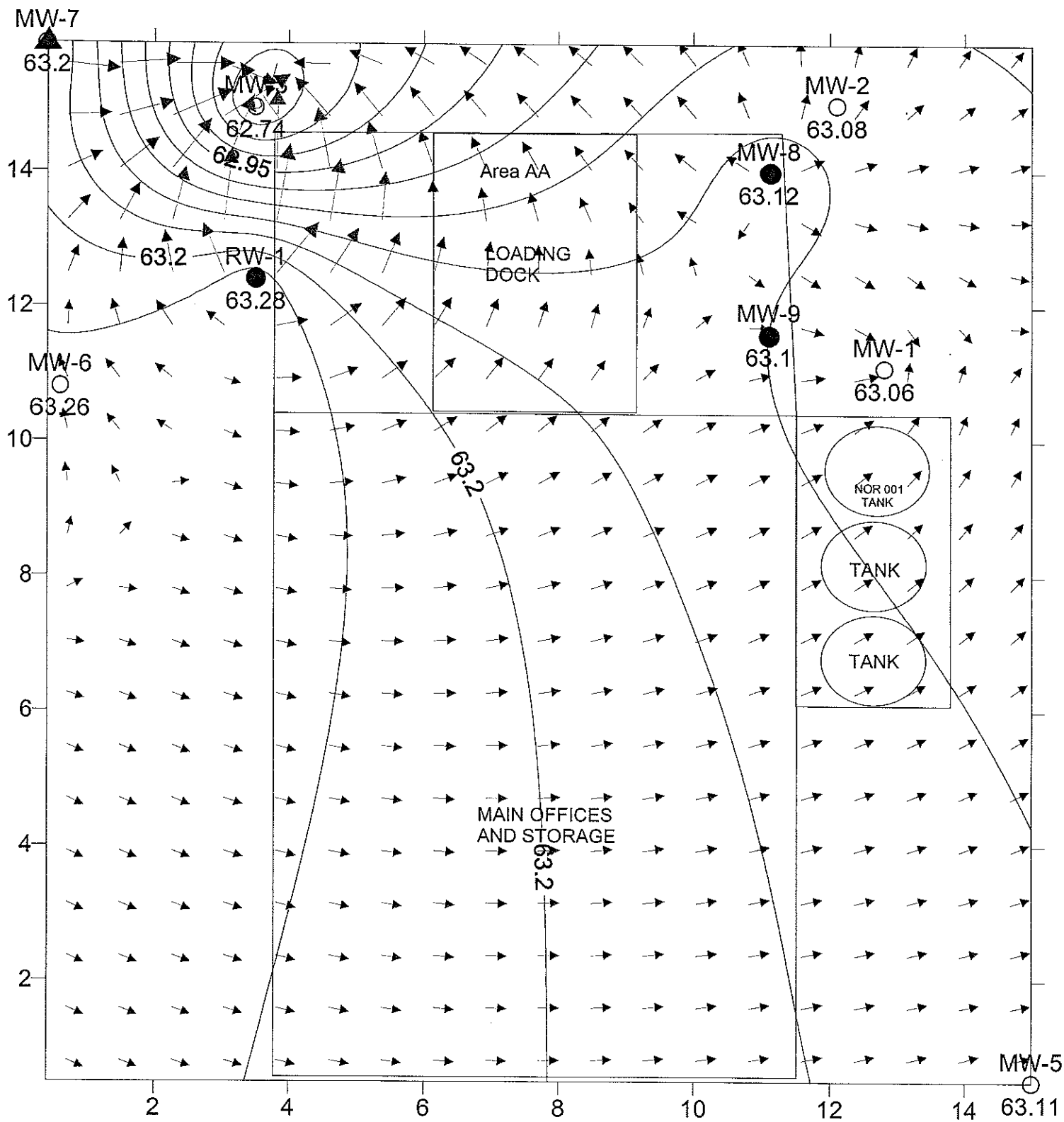


Background Well

Well ID



GW ELEVATION



GROUNDWATER ELEVATION / VECTOR MAP
11/26/2002

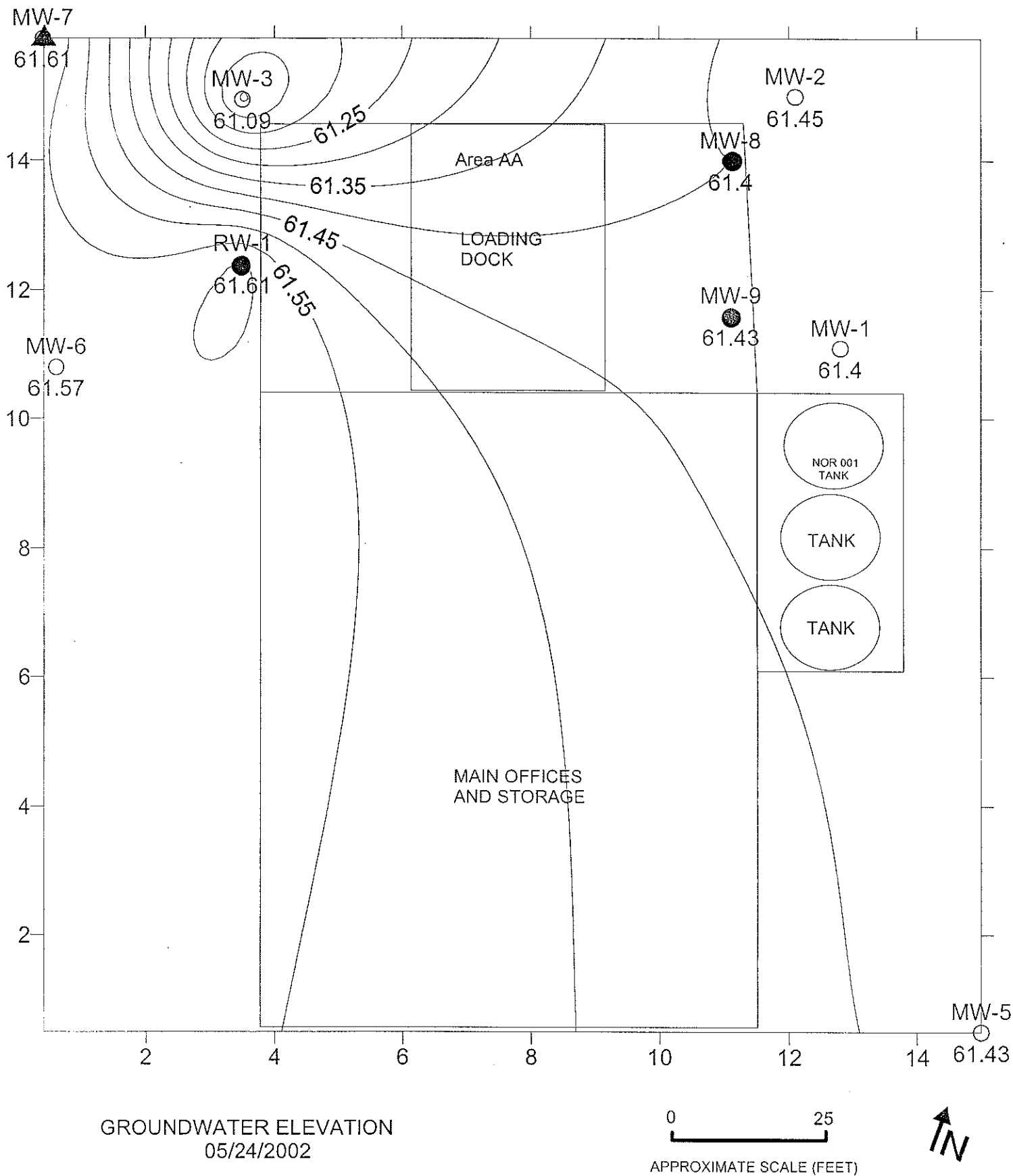
0 25
APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

● Point of Compliance well
▲ Background Well

Well ID
○
GW ELEVATION



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236



Point of Compliance well

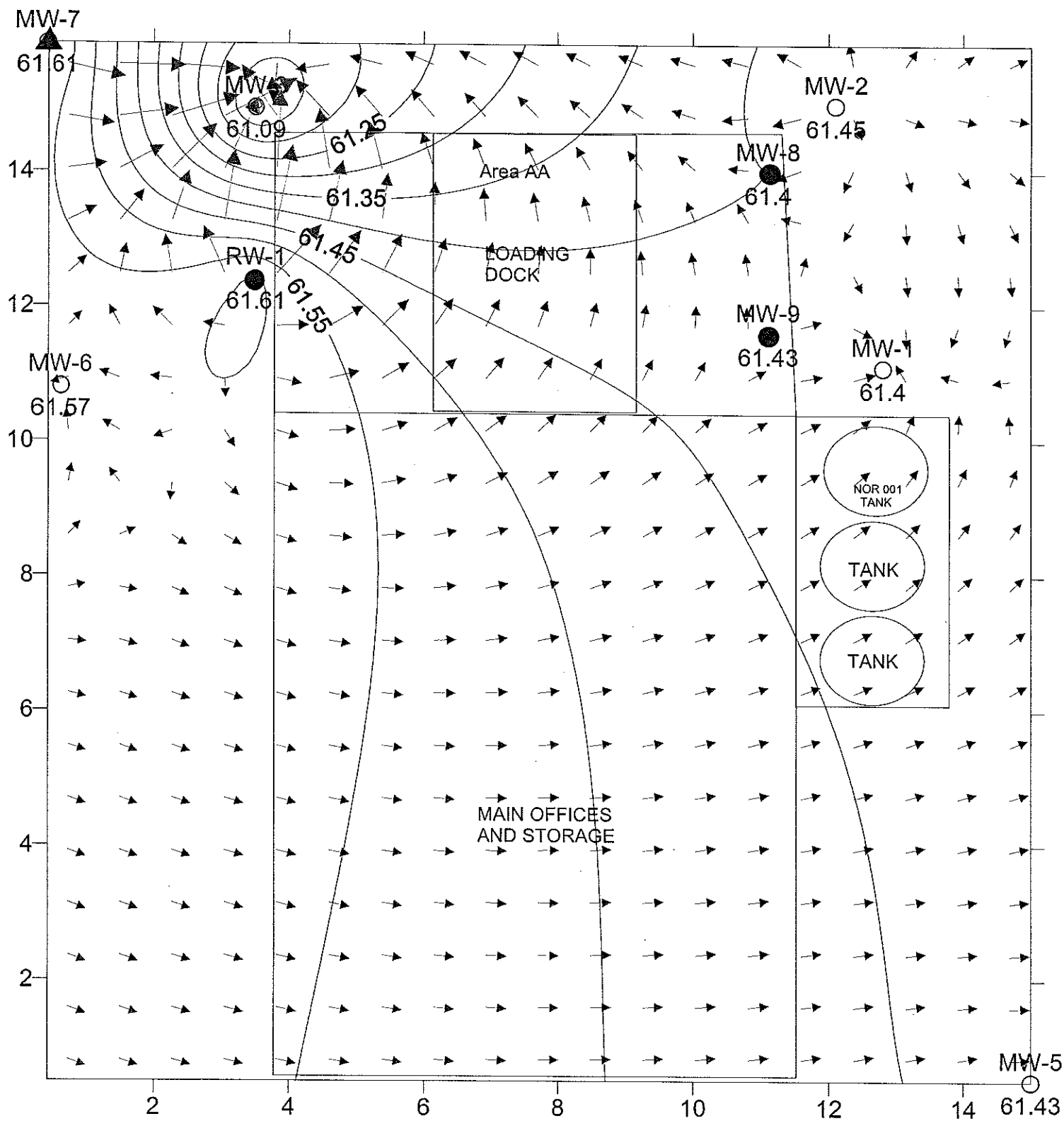


Background Well

Well ID



GW ELEVATION



GROUNDWATER ELEVATION / VECTOR MAP
05/24/2002

0 25
APPROXIMATE SCALE (FEET)



SAFETY KLEEN
MISSOURI CITY FACILITY
SWR 71144, PERMIT 50236

● Point of Compliance well
▲ Background Well

Well ID
○
GW ELEVATION

ATTACHMENT 4

TCEQ Chain of Custody, Sample Analysis Results

SAFETY-KLEEN SYSTEMS INC, MISSOURI CITY SAMPLE ANALYSIS SUMMARY

Sample ID	Date	Tetrachloro-ethene (mg/L)	Vinyl Chloride (mg/L)	Benzene (mg/L)	Chloro-benzene (mg/L)	1,1 Dichloro-ethane (mg/L)	1,2 Dichloro-ethene (mg/L)	Ethyl-benzene (mg/L)	Methyl Isobutyl Ketone (mg/L)	Methyl Ethyl Ketone (mg/L)	Toluene (mg/L)	Trichloro-ethene (mg/L)	Total Xylenes (mg/L)	Total Cadmium (mg/L)	Total Lead (mg/L)
MWV-1	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/15/94	<0.005	<0.002	<0.005	<0.025	<0.005	<0.005	<0.005	<0.005	<0.020	<0.005	<0.005	<0.005	<0.005	<0.005
	07/06/95	<0.001	<0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/09/96	<0.005	<0.005	<0.005	0.030	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.0004	0.0090
	06/20/96	<0.005	<0.01	<0.005	0.031	<0.005	<0.005	<0.005	<0.05	<0.1	<0.005	<0.005	<0.005	<0.0004	0.0012
	12/19/96	<0.005	<0.002	<0.005	0.039	<0.005	<0.005	<0.005	N/A	<0.100	<0.005	<0.005	<0.005	<0.01	<0.05
	06/05/97	<0.005	<0.002	<0.005	0.020	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.01	<0.05
	11/21/97	<0.005	<0.002	<0.005	0.019	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.005	<0.015
	03/12/98	<0.005	<0.002	<0.005	0.010	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.010	<0.080*
	05/24/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
MWV-2	11/16/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/29/03	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/15/94	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.005	<0.005	<0.005	<0.01	<0.03
	07/06/95	<0.001	<0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/09/96	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	N/A	<0.005	<0.005	<0.0004	0.0070
	06/20/96	<0.005	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.1	<0.005	<0.005	<0.005	<0.0004	0.0016
	12/19/96	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	N/A	<0.005	<0.005	<0.005	<0.01	<0.05
	06/05/97	<0.005	<0.002	<0.005	0.016	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.01	<0.05
	11/21/97	<0.005	<0.002	<0.005	0.010	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.005	<0.015
	03/12/98	<0.005	<0.002	<0.005	0.009	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.010	<0.080*
MWV-3	05/24/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/15/94	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.020	<0.005	<0.005	<0.005	<0.01	<0.03
	07/06/95	<0.001	<0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/09/96	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005	<0.005	<0.005	<0.005	0.0210
	06/20/96	<0.05	<0.01	<0.005	0.005	<0.005	<0.005	<0.005	<0.05	<0.01	<0.005	<0.005	<0.005	<0.0004	0.0021
	12/19/96	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	N/A	<0.005	<0.005	<0.005	<0.01	<0.05
	06/05/97	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.01	<0.05
	11/21/97	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.005	<0.015
	03/12/98	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.010	<0.080*
	05/24/02	N/A	N/A	N/A	0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/29/03	N/A	N/A	N/A	0.011	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A

SAFETY-KLEEN SYSTEMS INC, MISSOURI CITY SAMPLE ANALYSIS SUMMARY

MW-5	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	05/24/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/29/03	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
MW-6	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/15/94	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	07/06/95	<0.001	<0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/09/96	<0.005	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/20/96	<0.05	<0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/96	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/05/97	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	N/A	N/A	<0.005	<0.005	<0.005	N/A	N/A
	11/21/97	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/12/98	<0.005	<0.002	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.010	<0.080*
	05/24/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
MW-7	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/05/98	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/26/99	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/14/99	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/20/00	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/11/00	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/16/01	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/24/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A

SAFETY-KLEEN SYSTEMS INC, MISSOURI CITY SAMPLE ANALYSIS SUMMARY

MW-8	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/15/94	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	07/06/95	<0.001	<0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/09/96	<0.005	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/20/96	<0.005	<0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/96	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/05/97	<0.005	<0.002	<0.005	0.010	<0.005	<0.005	<0.005	N/A	N/A	<0.005	<0.005	<0.005	N/A	N/A
	11/21/97	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/12/98	<0.005	<0.002	<0.005	0.012	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.010	<0.080*
	11/05/98	N/A	N/A	N/A	0.019	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/26/99	N/A	N/A	N/A	0.0157	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/14/99	N/A	N/A	N/A	0.0303	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/20/00	N/A	N/A	N/A	0.0296	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/11/00	N/A	N/A	N/A	0.0572	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/16/01	N/A	N/A	N/A	0.0364	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/24/02	N/A	N/A	N/A	0.0330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	0.0790	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/29/03	N/A	N/A	N/A	0.0340	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
MW-9	07/11/94	<0.005	<0.010	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	11/15/94	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	07/06/95	<0.001	<0.001	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	01/09/96	<0.005	<0.005	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/20/96	<0.005	<0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	12/19/96	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	06/05/97	<0.005	<0.002	<0.005	0.019	<0.005	<0.005	<0.005	N/A	N/A	<0.005	<0.005	<0.005	N/A	N/A
	11/21/97	<0.005	<0.002	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	03/12/98	<0.005	<0.002	<0.005	0.0089	<0.005	<0.005	<0.005	<0.05	<0.100	<0.005	<0.005	<0.005	<0.010	<0.080*
	11/05/98	N/A	N/A	N/A	0.021	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/26/99	N/A	N/A	N/A	0.0184	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/14/99	N/A	N/A	N/A	0.0260	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/20/00	N/A	N/A	N/A	0.0134	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	07/11/00	N/A	N/A	N/A	0.0278	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	01/16/01	N/A	N/A	N/A	0.0361	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/24/02	N/A	N/A	N/A	0.0310	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	11/26/02	N/A	N/A	N/A	0.0320	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A
	05/29/03	N/A	N/A	N/A	0.0150	N/A	N/A	N/A	N/A	N/A	N/A	N/A	<0.005	N/A	N/A



Chain of Custody Record

Nº 011691

Location:

S-K M. City

(Do not fill in this shaded area if the facility information must be confidential)

Permit #:

50236

Region:

12

Organization #:

PCA Code:

Program:

Waste

Sampler telephone number:

713 767 3616

E-Mail ID:

TCEQ-SM
C.BURRER@TX.U.S

Sampler: (signature)

Sampler: (please print clearly)

Charles Burner

Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS
1	-01 FB	5/29/03	11:00	2	G	water				VOC	VOC
2	-02 TB	5/27/03	/	2	G	water				VOC	Lab prepared
3	-03 MW-1	5/29/03	11:30	3	G	water				VOC	
3	-04 MW-1	5/29/03	11:33	1	G	water				Metals	2AA
4	-05 MW-2	5/29/03	12:20	3	G	water				VOC	VOC
4	-06 MW-2	5/29/03	12:20	1	G	water				Metals	2AA
	-07										
	-08										
	-09										
	-10										

Relinquished by:

Date

5/29

Time

12:55

Received by:

For Laboratory Use:

T4418

Relinquished by:

Date

Time

Received by:

Received on ice:

(Y) N

5.5°C deg. C

Relinquished by:

Date

Time

Received by:

Preservatives:

(Y) N

Relinquished by:

Date

Time

Received by:

COC Seal:

Y (N)

Shipper name:

Shipper Number:

Seals Intact:

Y (N)

Safety-Kleen
Missouri City
SWR 71144
Groundwater Sample Results Summary
05/29/03

Parameter	Well	result ug/l	PCL Class-1 Groundwater Ing. ug/l
Barium	MW-1	381	2000000
Barium	MW-2	672	2000000
Chlorobenzene	MW-2	10.4	100

(a) "Note suspect lab contaminant



Technical Report for

TCEQ

Region 12/Houston

PCA 93960/Charlie Burner

Accutest Job Number: T4418

Report to:

TCEQ - Region 12
5425 Polk Avenue
Suite H
Houston, TX 77023

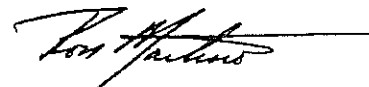
ATTN: Field Operations

RECEIVED
JUN 13 2003
REGION 12

Total number of pages in report: 28



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Ron Martino
Laboratory Manager

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Sample Summary

TCEQ

Job No: T4418

Region 12/Houston

Project No: PCA 93960/Charlie Burner

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T4418-1	05/29/03	11:00 CB	05/29/03	AQ	Field Blank Water	011691-01
T4418-2	05/27/03	00:00 CB	05/29/03	AQ	Trip Blank Water	011691-02
T4418-3	05/29/03	11:33 CB	05/29/03	AQ	Water	011691-03/04
T4418-4	05/29/03	12:20 CB	05/29/03	AQ	Water	011691-05/06

Report of Analysis

Client Sample ID: 011691-01

Lab Sample ID: T4418-1

Matrix: AQ - Field Blank Water

Method: SW846 8260B

Project: Region 12/Houston

Date Sampled: 05/29/03

Date Received: 05/29/03

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	VZ1736.D	1	06/03/03	BC	n/a	n/a	VZ92
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: 011691-01
Lab Sample ID: T4418-1
Matrix: AQ - Field Blank Water
Method: SW846 8260B
Project: Region 12/Houston

Date Sampled: 05/29/03
Date Received: 05/29/03
Percent Solids: n/a

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		88-114%
17060-07-0	1,2-Dichloroethane-D4	104%		81-122%
2037-26-5	Toluene-D8	100%		88-110%
460-00-4	4-Bromofluorobenzene	98%		88-115%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 011691-02

Lab Sample ID: T4418-2

Date Sampled: 05/27/03

Matrix: AQ - Trip Blank Water

Date Received: 05/29/03

Method: SW846 8260B

Percent Solids: n/a

Project: Region 12/Houston

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	VZ1737.D	1	06/03/03	BC	n/a	n/a	VZ92
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride ^a	1.0	5.0	ug/l	J
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	011691-02	Date Sampled:	05/27/03
Lab Sample ID:	T4418-2	Date Received:	05/29/03
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Region 12/Houston		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104 %		88-114 %
17060-07-0	1,2-Dichloroethane-D4	103 %		81-122 %
2037-26-5	Toluene-D8	99 %		88-110 %
460-00-4	4-Bromofluorobenzene	98 %		88-115 %

(a) Suspected laboratory contaminant.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	011691-03/04	Date Sampled:	05/29/03
Lab Sample ID:	T4418-3 → m w - 1	Date Received:	05/29/03
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Region 12/Houston		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	VZ1739.D	1	06/04/03	BC	n/a	n/a	VZ92
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: 011691-03/04	Date Sampled: 05/29/03
Lab Sample ID: T4418-3	Date Received: 05/29/03
Matrix: AQ - Water	Percent Solids: n/a
Method: SW846 8260B	
Project: Region 12/Houston	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		88-114%
17060-07-0	1,2-Dichloroethane-D4	105%		81-122%
2037-26-5	Toluene-D8	99%		88-110%
460-00-4	4-Bromofluorobenzene	99%		88-115%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: 011691-03/04

Lab Sample ID: T4418-3

Matrix: AQ - Water

Date Sampled: 05/29/03

Date Received: 05/29/03

Percent Solids: n/a

Project: Region 12/Houston

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Barium	381	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Cadmium	<4.0	4.0	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Chromium	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Lead	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Mercury	<0.20	0.20	ug/l	1	06/05/03	06/06/03 JA	SW846 7470A	SW846 7470A
Selenium	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Silver	<6.0	6.0	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A

RL = Reporting Limit

Report of Analysis

Page 1 of 2

Client Sample ID: 011691-05/06

Lab Sample ID: T4418-4

Matrix: AQ - Water *Mar-2*

Method: SW846 8260B

Project: Region 12/Houston

Date Sampled: 05/29/03

Date Received: 05/29/03

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	VZ1738.D	1	06/04/03	BC	n/a	n/a	VZ92
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	10.4	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	011691-05/06	Date Sampled:	05/29/03
Lab Sample ID:	T4418-4	Date Received:	05/29/03
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Region 12/Houston		

VOA TCL List

CAS No.	Compound	Result	RL	Units	Q
75-01-4	Vinyl chloride	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		88-114%
17060-07-0	1,2-Dichloroethane-D4	104%		81-122%
2037-26-5	Toluene-D8	98%		88-110%
460-00-4	4-Bromofluorobenzene	100%		88-115%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: 011691-05/06

Lab Sample ID: T4418-4

Matrix: AQ - Water

Project: Region 12/Houston

Date Sampled: 05/29/03

Date Received: 05/29/03

Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Barium	672	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Cadmium	<4.0	4.0	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Chromium	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Lead	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Mercury	<0.20	0.20	ug/l	1	06/05/03	06/06/03 JA	SW846 7470A	SW846 7470A
Selenium	<10	10	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A
Silver	<6.0	6.0	ug/l	1	06/04/03	06/05/03 JA	SW846 6010B	SW846 3010A

RL = Reporting Limit

QC DATA SUMMARY

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T4418
Account: TNR - TCEQ
Project: Region 12/Houston

QC Batch ID: MP1623
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/04/03

Metal	RL	IDL	MB raw	final
Aluminum	50	8		
Antimony	6.0	1.4		
Arsenic	10	1.2	-1.2	<10
Barium	10	.2	-0.30	<10
Beryllium	4.0	.4		
Boron	500	4		
Cadmium	4.0	.4	-0.13	<4.0
Calcium	500	9	anr	
Chromium	10	1	-0.88	<10
Cobalt	10	.5		
Copper	20	1	anr	
Iron	140	14	anr	
Lead	10	1.4	0.24	<10
Lithium	5.0	.4		
Magnesium	500	4	anr	
Manganese	10	.3		
Molybdenum	10	1		
Nickel	20	1.3	anr	
Potassium	500	9		
Selenium	10	1.7	-0.61	<10
Silicon	1200	7		
Silver	6.0	.6	-0.39	<6.0
Sodium	500	8	anr	
Strontium	5.0	.1		
Thallium	10	2		
Titanium	10	.4		
Uranium	60	4.4		
Vanadium	10	.5		
Zinc	30	.5		
Zirconium	10	.5		

Associated samples MP1623: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T4418
 Account: TNR - TCEQ
 Project: Region 12/Houston

QC Batch ID: MP1623
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/04/03

06/04/03

Metal	T4388-5 Original DUP		RPD	QC Limits	T4388-5 Original MS		Spikelot MPTW3	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	0.0	0.0	NC	0-20	0.0	400	400	100.0	75-125
Barium	60.2	59.8	0.7	0-20	60.2	422	400	90.5	75-125
Beryllium									
Boron									
Cadmium	0.0	0.0	NC	0-20	0.0	360	400	90.0	75-125
Calcium	anr								
Chromium	0.0	0.0	NC	0-20	0.0	361	400	90.3	75-125
Cobalt									
Copper	anr								
Iron	anr								
Lead	0.0	0.0	NC	0-20	0.0	365	400	91.3	75-125
Lithium									
Magnesium	anr								
Manganese									
Molybdenum									
Nickel	anr								
Potassium									
Selenium	0.0	0.0	NC	0-20	0.0	365	400	91.3	75-125
Silicon									
Silver	0.0	0.0	NC	0-20	0.0	365	400	91.3	75-125
Sodium									
Strontium									
Thallium									
Titanium									
Uranium									
Vanadium									
Zinc									
Zirconium									

Associated samples MP1623: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T4418
Account: TNR - TCEQ
Project: Region 12/Houston

QC Batch ID: MP1623
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

06/04/03

Metal	T4388-5 Original MSD	Spikelot MPTW3	% Rec	MSD RPD	QC Limit
Aluminum					
Antimony					
Arsenic	0.0	395	400	98.8	1.3
Barium	60.2	422	400	90.5	0.0
Beryllium					
Boron					
Cadmium	0.0	357	400	89.3	0.8
Calcium	anr				
Chromium	0.0	357	400	89.3	1.1
Cobalt					
Copper	anr				
Iron	anr				
Lead	0.0	361	400	90.3	1.1
Lithium					
Magnesium	anr				
Manganese					
Molybdenum					
Nickel	anr				
Potassium					
Selenium	0.0	360	400	90.0	1.4
Silicon					
Silver	0.0	362	400	90.5	0.8
Sodium					
Strontium					
Thallium					
Titanium					
Uranium					
Vanadium					
Zinc					
Zirconium					

Associated samples MP1623: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T4418
Account: TNR - TCEQ
Project: Region 12/Houston

QC Batch ID: MP1623
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/04/03

Metal	BSP Result	Spikelot MPTW3	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	400	400	100.0	80-120
Barium	383	400	95.8	80-120
Beryllium				
Boron				
Cadmium	371	400	92.8	80-120
Calcium	anr			
Chromium	369	400	92.3	80-120
Cobalt				
Copper	anr			
Iron	anr			
Lead	371	400	92.8	80-120
Lithium				
Magnesium	anr			
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	372	400	93.0	80-120
Silicon				
Silver	369	400	92.3	80-120
Sodium	anr			
Strontium				
Thallium				
Titanium				
Uranium				
Vanadium				
Zinc				
Zirconium				

Associated samples MP1623: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T4418
Account: TNR - TCEQ
Project: Region 12/Houston

QC Batch ID: MP1623
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/04/03

Metal	T4388-5 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	60.2	60.8	1.0	0-10
Beryllium				
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Chromium	0.00	0.00	NC	0-10
Cobalt				
Copper	anr			
Iron	anr			
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium	anr			
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium				
Strontium				
Thallium				
Titanium				
Uranium				
Vanadium				
Zinc				
Zirconium				

Associated samples MP1623: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T4418
Account: TNR - TCEQ
Project: Region 12/Houston

QC Batch ID: MP1629
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/05/03

Metal	RL	IDL	MB	
			raw	final
Mercury	0.20	.06	-0.030	<0.20

Associated samples MP1629: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T4418
 Account: TNR - TCEQ
 Project: Region 12/Houston

QC Batch ID: MP1629
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 06/05/03 06/05/03

Metal	T4418-3		RPD	QC Limits	T4418-3		Spikelot HGTXWS1	% Rec	QC Limits
	Original	DUP			Original	MS			
Mercury	0.060	0.21	111.1(a)	0-6.6	0.060	7.2	10	71.4N(b)	78-118

Associated samples MP1629: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) RPD acceptable due to low duplicate and sample concentrations.

(b) Spike recovery indicates possible matrix interference. Post-spike recovery for Hg(T4418-3):82.5%

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T4418
 Account: TNR - TCEQ
 Project: Region 12/Houston

QC Batch ID: MP1629
 Matrix Type: AQUEOUS

Methods: SW846 7470A
 Units: ug/l

Prep Date: 06/05/03

Metal	T4418-3		Spikelot		MSD	QC
	Original MSD		HGTXWS1	% Rec	RPD	Limit
Mercury	0.060	7.5	10	74.4N(a)	4.1	

Associated samples MP1629: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) Spike recovery indicates possible matrix interference. Post-spike recovery for Hg(T4418-3):82.5%

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T4418
Account: TNR - TCEQ
Project: Region 12/Houston

QC Batch ID: MP1629
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/05/03

Metal	BSP Result	Spikelot HGTXWS1	% Rec	QC Limits
Mercury	9.8	10	98.0	80-120

Associated samples MP1629: T4418-3, T4418-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Blank Spike Summary

Job Number: T4418
Account: TNR TCEQ
Project: Region 12/Houston

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ92-BS	VZ1733.D	1	06/03/03	BC	n/a	n/a	VZ92

The QC reported here applies to the following samples:

Method: SW846 8260B

T4418-1, T4418-2, T4418-3, T4418-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	109	87	63-132
71-43-2	Benzene	25	21.5	86	77-128
75-27-4	Bromodichloromethane	25	23.5	94	75-123
75-25-2	Bromoform	25	23.8	95	69-123
108-90-7	Chlorobenzene	25	25.1	100	77-120
75-00-3	Chloroethane	25	22.9	92	78-138
67-66-3	Chloroform	25	23.1	92	77-122
75-15-0	Carbon disulfide	25	23.3	93	69-146
56-23-5	Carbon tetrachloride	25	22.9	92	73-135
75-34-3	1,1-Dichloroethane	25	25.1	100	74-127
75-35-4	1,1-Dichloroethylene	25	26.3	105	70-134
107-06-2	1,2-Dichloroethane	25	23.2	93	71-117
78-87-5	1,2-Dichloropropane	25	24.1	96	75-125
124-48-1	Dibromochloromethane	25	24.0	96	72-121
156-59-2	cis-1,2-Dichloroethylene	25	22.7	91	76-125
10061-01-5	cis-1,3-Dichloropropene	25	23.0	92	72-125
156-60-5	trans-1,2-Dichloroethylene	25	25.1	100	72-131
10061-02-6	trans-1,3-Dichloropropene	25	25.6	102	67-124
100-41-4	Ethylbenzene	25	24.0	96	75-130
591-78-6	2-Hexanone	125	115	92	62-128
108-10-1	4-Methyl-2-pentanone	125	110	88	63-127
74-83-9	Methyl bromide	25	23.2	93	61-146
74-87-3	Methyl chloride	25	21.1	84	73-138
75-09-2	Methylene chloride	25	21.7	87	67-132
78-93-3	Methyl ethyl ketone	125	110	88	63-128
100-42-5	Styrene	25	23.0	92	78-123
71-55-6	1,1,1-Trichloroethane	25	24.1	96	73-130
79-34-5	1,1,2,2-Tetrachloroethane	25	22.6	90	63-123
79-00-5	1,1,2-Trichloroethane	25	23.0	92	74-119
127-18-4	Tetrachloroethylene	25	26.2	105	69-134
108-88-3	Toluene	25	23.9	96	75-127
79-01-6	Trichloroethylene	25	26.3	105	75-128
75-01-4	Vinyl chloride	25	24.2	97	72-139
1330-20-7	Xylene (total)	75	72.7	97	78-123

Blank Spike Summary

Page 2 of 2

Job Number: T4418
Account: TNR TCEQ
Project: Region 12/Houston

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ92-BS	VZ1733.D	1	06/03/03	BC	n/a	n/a	VZ92

The QC reported here applies to the following samples:

Method: SW846 8260B

T4418-1, T4418-2, T4418-3, T4418-4

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	90%	88-114%
17060-07-0	1,2-Dichloroethane-D4	91%	81-122%
2037-26-5	Toluene-D8	101%	88-110%
460-00-4	4-Bromofluorobenzene	99%	88-115%

Method Blank Summary

Page 1 of 2

Job Number: T4418
Account: TNR TCEQ
Project: Region 12/Houston

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ92-MB	VZ1735.D	1	06/03/03	BC	n/a	n/a	VZ92

The QC reported here applies to the following samples:

Method: SW846 8260B

T4418-1, T4418-2, T4418-3, T4418-4

CAS No.	Compound	Result	RL	Units	Q
67-64-1	Acetone	ND	50	ug/l	
71-43-2	Benzene	ND	2.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
75-15-0	Carbon disulfide	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
591-78-6	2-Hexanone	ND	10	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	10	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	ug/l	
100-42-5	Styrene	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Page 2 of 2

Job Number: T4418
Account: TNR TCEQ
Project: Region 12/Houston

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ92-MB	VZ1735.D	1	06/03/03	BC	n/a	n/a	VZ92

The QC reported here applies to the following samples:

Method: SW846 8260B

T4418-1, T4418-2, T4418-3, T4418-4

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	104% 88-114%
17060-07-0	1,2-Dichloroethane-D4	102% 81-122%
2037-26-5	Toluene-D8	100% 88-110%
460-00-4	4-Bromofluorobenzene	100% 88-115%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: T4418
Account: TNR TCEQ
Project: Region 12/Houston

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4418-3MS	VZ1740.D	1	06/04/03	BC	n/a	n/a	VZ92
T4418-3MSD	VZ1741.D	1	06/04/03	BC	n/a	n/a	VZ92
T4418-3	VZ1739.D	1	06/04/03	BC	n/a	n/a	VZ92

The QC reported here applies to the following samples:

Method: SW846 8260B

T4418-1, T4418-2, T4418-3, T4418-4

CAS No.	Compound	T4418-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		125	122	98	114	91	7	56-120/20
71-43-2	Benzene	ND		25	24.2	97	24.5	98	1	82-124/10
75-27-4	Bromodichloromethane	ND		25	27.2	109	27.4	110	1	77-124/11
75-25-2	Bromoform	ND		25	24.1	96	23.2	93	4	68-123/12
108-90-7	Chlorobenzene	ND		25	28.1	112	28.1	112	0	85-112/10
75-00-3	Chloroethane	ND		25	22.4	90	23.9	96	6	87-145/19
67-66-3	Chloroform	ND		25	27.1	108	26.7	107	1	83-118/11
75-15-0	Carbon disulfide	ND		25	26.1	104	27.0	108	3	75-138/12
56-23-5	Carbon tetrachloride	ND		25	25.9	104	26.6	106	3	78-136/12
75-34-3	1,1-Dichloroethane	ND		25	29.8	119	29.7	119	0	78-125/11
75-35-4	1,1-Dichloroethylene	ND		25	30.0	120	30.8	123	3	72-136/12
107-06-2	1,2-Dichloroethane	ND		25	27.0	108	26.9	108	0	74-118/11
78-87-5	1,2-Dichloropropane	ND		25	27.3	109	25.7	103	6	78-122/10
124-48-1	Dibromochloromethane	ND		25	25.0	100	24.0	96	4	72-122/10
156-59-2	cis-1,2-Dichloroethylene	ND		25	25.1	100	25.7	103	2	77-123/10
10061-01-5	cis-1,3-Dichloropropene	ND		25	25.2	101	25.3	101	0	73-123/12
156-60-5	trans-1,2-Dichloroethylene	ND		25	28.2	113	28.5	114	1	72-133/10
10061-02-6	trans-1,3-Dichloropropene	ND		25	26.0	104	25.4	102	2	62-125/13
100-41-4	Ethylbenzene	ND		25	24.4	98	24.0	96	2	87-121/10
591-78-6	2-Hexanone	ND		125	120	96	111	89	8	57-135/15
108-10-1	4-Methyl-2-pentanone	ND		125	127	102	123	98	3	61-135/15
74-83-9	Methyl bromide	ND		25	23.7	95	25.3	101	7	67-120/19
74-87-3	Methyl chloride	ND		25	20.7	83	20.9	84	1	60-138/20
75-09-2	Methylene chloride	ND		25	25.2	101	24.9	100	1	58-129/10
78-93-3	Methyl ethyl ketone	ND		125	123	98	115	92	7	58-127/15
100-42-5	Styrene	ND		25	ND	0*	ND	0*	nc	83-119/12
71-55-6	1,1,1-Trichloroethane	ND		25	28.2	113	28.5	114	1	74-133/10
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	23.0	92	22.6	90	2	61-123/15
79-00-5	1,1,2-Trichloroethane	ND		25	24.6	98	24.3	97	1	69-123/11
127-18-4	Tetrachloroethylene	ND		25	26.9	108	26.1	104	3	80-127/11
108-88-3	Toluene	ND		25	24.2	97	24.2	97	0	77-124/11
79-01-6	Trichloroethylene	ND		25	29.4	118	26.4	106	11*	81-124/10
75-01-4	Vinyl chloride	ND		25	22.8	91	23.7	95	4	72-140/18
1330-20-7	Xylene (total)	ND		75	73.9	99	73.1	97	1	81-122/10

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: T4418
Account: TNR TCEQ
Project: Region 12/Houston

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T4418-3MS	VZ1740.D	1	06/04/03	BC	n/a	n/a	VZ92
T4418-3MSD	VZ1741.D	1	06/04/03	BC	n/a	n/a	VZ92
T4418-3	VZ1739.D	1	06/04/03	BC	n/a	n/a	VZ92

The QC reported here applies to the following samples:

Method: SW846 8260B

T4418-1, T4418-2, T4418-3, T4418-4

CAS No.	Surrogate Recoveries	MS	MSD	T4418-3	Limits
1868-53-7	Dibromofluoromethane	100%	101%	102%	88-114%
17060-07-0	1,2-Dichloroethane-D4	105%	105%	105%	81-122%
2037-26-5	Toluene-D8	100%	99%	99%	88-110%
460-00-4	4-Bromofluorobenzene	97%	100%	99%	88-115%

ATTACHMENT 5

Facility Chain of Custody, Sample Analysis Results

CHAIN OF CUSTODY RECORD

ASI

ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

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JUN. 17. 2003-11:53AM

NO. 11/93 P. 13

CLIENT NAME		CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER		REPORT TO:		REQUESTED COMPLETION DATE:		PROJECT NAME/STATE:		PROJECT #:		DATE		TIME		MATRIX CODE*		C O M P		G R A B		SAMPLE IDENTIFICATION		# of CONTAINERS		ANALYSIS REQUESTED		CONTAINER TYPE		PRESERVATION		MATRIX CODES:		REMARKS/ADDITIONAL INFORMATION	
ATC Associates Inc		2735 Tuckermans Drive Ft. Worth, TX 77477		Hal Metz				SK - Missouri City		73 75112 0005																									
5/29/03		1126		W				X		MW-1		4																							
1218		W				X		MW-2		4																									
1035		W				X		MW-3		4																									
1430		W				X		MW-5		4																									
1545		W				X		MW-6		4																									
1635		W				X		MW-7		4																									
1715		W				X		MW-8		4																									
1342		W				X		MW-9		4																									
1455		W				X		RW-1		4																									
1630		W				X		Equipment Blank		3																									
SAMPLED BY AND TITLE:		DATE/TIME:		RELINQUISHED BY:		DATE/TIME:		RECEIVED BY LAB:		DATE/TIME:		SAMPLE SHIPPED VIA:		TEMPERATURE:		QUALITY SEAL:		BROKEN:		MISSING:		COOLER #:		LAB #:		IN-HOUSE LOCATION:		ENTERED INTO LIMS:							
JAMES WHITE / Tom Forbes		5/29/03 / 1810										UPS / FED EX / COURIER / CLIENT / OTHER		Temperature		Quality Seal		Broken		Missing		Cooler #		LAB #		In-house location		Entered into LIMS							

Please use Black Ink to complete form.

47672
CHAIN OF CUSTODY RECORD

ASI

ANALYTICAL SERVICES, INC.
ENVIRONMENTAL MONITORING & LABORATORY ANALYSIS
110 TECHNOLOGY PARKWAY NORCROSS, GA 30092
(770) 734-4200 : FAX (770) 734-4201 : www.asi-lab.com

PAGE: 1 OF 1

JUN. 17, 2003-11:54AM

CLIENT NAME: ATC Associates Inc
CLIENT ADDRESS/PHONE NUMBER/FAX NUMBER:
3928 Bluebonnet Drive
Stafford, Tx 77477
281-240-0154 (Fax) 281-240-8909
REPORT TO: Hal Kuntz CC:
REQUESTED COMPLETION DATE: PO #:
PROJECT NAME/STATE:
SK - Missouri City
PROJECT #:
73.75/15.0005

DATE	TIME	MATRIX CODE*	COMP	GRAB	SAMPLE IDENTIFICATION	# of CONTAINERS	ANALYSIS REQUESTED
5/29/03	1126	W		X	MW-1	4	Chlorobenzene, Styrene 8260
	1218	W		X	MW-2	4	Substrate/Nitrate 9056
	1035	W		X	MW-3	4	
	1420	W		X	MW-5	4	
	1545	W		X	MW-6	4	
	1625	W		X	MW-7	4	
	1315	W		X	MW-8	4	
	1342	W		X	MW-9	4	
	1455	W		X	RW-1	4	
✓	1630	W		X	Equipment Blank	3	

CONTAINER TYPE	PRESERVATION
P - PLASTIC	1 - HCl, 4°
A - AMBER GLASS	2 - H2SO4, 4°
G - CLEAR GLASS	3 - HNO3, 4°
V - VOA VIAL	4 - NaOH, 4°
S - STERILE	5 - NaOH/ZnAc, 4°
O - OTHER	6 - Na2S2O3, 4°
	7 - 4°

*MATRIX CODES:	
DW - DRINKING WATER	S - SOIL
WW - WASTEWATER	SL - SLUDGE
GW - GROUNDWATER	SD - SOLID
SW - SURFACE WATER	A - AIR
ST - STORM WATER	L - LIQUID
W - WATER	P - PRODUCT

REMARKS/ADDITIONAL INFORMATION

Trp Blank
24 std

SAMPLED BY AND TITLE: JAMES WHITE / Tom Forbes DATE/TIME: 5/29/03 / 1810
RECEIVED BY: [Signature] DATE/TIME: 5/29/03 / 1810
RECEIVED BY LAB: [Signature] DATE/TIME: 5/29/03 / 1810
Labeled Preserved: Yes or No
SAMPLE SHIPPED VIA: UPS FEDEX CARRIER: CLIENT OTHER: OTHER
Temperature: 18.0°C Cooler # 017
Broken: No Missing: No

FOR LAB USE ONLY
LAB # 1764831
In house location: 03 V
Entered into LIMS: [Signature]

Please use Black Ink to complete form.

NO. 1179 P. 37



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis
110 Technology Parkway Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Report Number **176481**

Project: SK-Missouri City, Project#73.75115.0005

Prepared For:
Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse

June 10, 2003

P.O. No. 4500028779

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Adrian N. Turk
Project Manager

Christy D. Giddens
Quality Assurance

cc: Mr. Hal Kuntz

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

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Analytical Services, Inc. certifies that the following analytical results meet all the requirements of the National Environmental Laboratory Accreditation Conference (NELAC).

Analytical Services Inc., Norcross Laboratory maintains the following certifications, approvals, and accreditations:
Georgia (812); NELAC (E87315) scope: CWA, SDWA, RCRA expires June 30, 2004; NSF International (04180) scope: CWA, SDWA, RCRA expires July 2004;
Arkansas; California (01160CA); Connecticut (PH-0250); Florida (E87315); Kansas (E-10334); Kentucky (90126); Louisiana (02059); New Jersey (GA001); New York (11762); North Carolina (384); Oklahoma (9907); South Carolina (98011); Tennessee (02094); USDA Soil Import License (S-36027). For more information visit our web site at: asi-lab.com

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Definitions of Terms

- B** - Found in Laboratory Blank
- BDL** - Below Detection Limit
- C** - Co-eluting Isomer Present
- F** - Positively Identified Below the Reporting Limit
- H** - Results Within Limits, See Attached
- J** - Estimated Concentration
- M** - A Matrix Effect was Determined to be Present in the Sample
- ND** - None Detected
- R** - The Data is Unusable Due to the Inability to Analyze the Sample
and Meet the Quality Control Criteria
- TIC** - Tentatively Identified Compound
- U** - Not Detected at the Level Reported
- CFU** - Colony Forming Units

NOTE: Unless otherwise noted, all results are reported on an as received basis.

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-1

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-1, 05/29/2003, 11:26, received 05/30/2003

Analytical

Method	Analyte	Result	Detection Limit	Units
General Chemistry				
Inorganic Anions				
EPA 9056	Nitrate Nitrogen (N)	BDL	0.01	mg/L
EPA 9056	Sulfate (SO4)	BDL	1	mg/L
Volatile Organics				
EPA 8260B	Chlorobenzene	BDL	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-2

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-2, 05/29/2003, 12:18, received 05/30/2003

Analytical

Method	Analyte	Result	Detection Limit	Units
General Chemistry				
Inorganic Anions				
EPA 9056	Nitrate Nitrogen (N)	BDL	0.01	mg/L
EPA 9056	Sulfate (SO4)	3	1	mg/L
Volatile Organics				
EPA 8260B	Chlorobenzene	13	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. **176481-3**

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-3, 05/29/2003, 10:35, received 05/30/2003

Analytical

Method	Analyte	Result	Detection Limit	Units
General Chemistry				
Inorganic Anions				
EPA 9056	Nitrate Nitrogen (N)	0.01	0.01	mg/L
EPA 9056	Sulfate (SO4)	1	1	mg/L
Volatile Organics				
EPA 8260B	Chlorobenzene	11	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-4

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-5, 05/29/2003, 14:20, received 05/30/2003

Analytical Method	Analyte	Result	Detection Limit	Units
	General Chemistry			
	Inorganic Anions			
EPA 9056	Nitrate Nitrogen (N)	0.16	0.01	mg/L
EPA 9056	Sulfate (SO4)	7	1	mg/L
	Volatile Organics			
EPA 8260B	Chlorobenzene	BDL	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. **176481-5**

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-6, 05/29/2003, 15:45, received 05/30/2003

Analytical Method	Analyte	Result	Detection Limit	Units
	General Chemistry			
	Inorganic Anions			
EPA 9056	Nitrate Nitrogen (N)	0.05	0.01	mg/L
EPA 9056	Sulfate (SO4)	17	1	mg/L
	Volatile Organics			
EPA 8260B	Chlorobenzene	BDL	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-6

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-7, 05/29/2003, 16:25, received 05/30/2003

Analytical Method	Analyte	Result	Detection Limit	Units
General Chemistry				
Inorganic Anions				
EPA 9056	Nitrate Nitrogen (N)	0.51	0.01	mg/L
EPA 9056	Sulfate (SO4)	32	4	mg/L
Volatile Organics				
EPA 8260B	Chlorobenzene	BDL	5	ug/L
EPA 8260B	Xylenes (total)	BDL	6	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-7

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-8, 05/29/2003, 13:15, received 05/30/2003

Analytical Method	Analyte	Result	Detection Limit	Units
General Chemistry				
Inorganic Anions				
EPA 9056	Nitrate Nitrogen (N)	BDL	0.01	mg/L
EPA 9056	Sulfate (SO4)	BDL	1	mg/L
Volatile Organics				
EPA 8260B	Chlorobenzene	34	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-8

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, MW-9, 05/29/2003, 13:42, received 05/30/2003

Analytical				
Method	Analyte	Result	Detection Limit	Units
	General Chemistry			
	Inorganic Anions			
EPA 9056	Nitrate Nitrogen (N)	BDL	0.01	mg/L
EPA 9056	Sulfate (SO4)	BDL	1	mg/L
	Volatile Organics			
EPA 8260B	Chlorobenzene	16	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-9

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, RW-1, 05/29/2003, 14:55, received 05/30/2003

Analytical

Method	Analyte	Result	Detection Limit	Units
General Chemistry				
Inorganic Anions				
EPA 9056	Nitrate Nitrogen (N)	BDL	0.01	mg/L
EPA 9056	Sulfate (SO4)	BDL	1	mg/L
Volatile Organics				
EPA 8260B	Chlorobenzene	100	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. **176481-10**

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross

Water, Grab, SK-Missouri City, Project#73.75115.0005, Equipment Blank, 05/29/2003, 16:30, received 05/30/2003

Analytical Method	Analyte	Result	Detection Limit	Units
	Volatile Organics			
EPA 8260B	Chlorobenzene	BDL	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Safety-Kleen Corporation - Norcross
1890 Noblin Ridge Trail
Duluth, GA 30097

Attention: Mr. Gary Risse
Report No. 176481-11

June 10, 2003

Sample Description

Safety-Kleen Corporation - Norcross
Water, SK-Missouri City, Project#73.75115.0005, Trip Blank, received 05/30/2003

Analytical Method	Analyte	Result	Detection Limit	Units
	Volatile Organics			
EPA 8260B	Chlorobenzene	BDL	5	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

Analytical Services, Inc.

Quality Control

Report No. 176481

Volatile Organics by Method EPA 8260
Spike Recovery

Batch # 92420**Matrix : AQUEOUS**

Lab Control Information Analyte	LC %Rec	LCD %Rec	LC/LCD RPD	%Recovery Range	RPD Range
Chlorobenzene	105	96	9	82 - 110	0 - 15
Note : ALL RECOVERIES AND RPDS ARE WITHIN CONTROL LIMIT.					
Toluene	108	100	8	83 - 117	0 - 15
Trichloroethene	105	94	11	78 - 113	0 - 18
Benzene	95	100	5	83 - 116	0 - 15
1,1-Dichloroethene	84	81	4	67 - 115	0 - 30
Matrix Spike Information Analyte	MS %Rec	MSD %Rec	MS/MSD RPD	%Recovery Range	RPD Range
Chlorobenzene	105	102	3	81 - 112	0 - 12
Note : ALL RECOVERIES AND RPDS ARE WITHIN CONTROL LIMIT.					
Toluene	109	108	1	81 - 119	0 - 12
Trichloroethene	105	99	6	75 - 115	0 - 13
Benzene	96	106	10	80 - 120	0 - 12
1,1-Dichloroethene	88	85	3	63 - 119	0 - 19

Analytical Services, Inc.

Quality Control

Report No. 176481

Volatile Organics by Method EPA 8260
Surrogate Recovery

Batch # 92420**Matrix : AQUEOUS****% Recovery Objectives**

Surrogate #	Surrogate Name	Surrogate Range
S1	Dibromofluoromethane	90 - 111
S2	1,2-Dichloroethane-d4	84 - 121
S3	Toluene-d8	91 - 110
S4	4-Bromofluorobenzene	86 - 108

Sample	File	S1	S2	S3	S4	S5	S6
92420LCSD	C8587	105	103	99	104		
92420LCS	C8588	107	101	99	102		
06-04-03BLK2	C8591	110	109	101	105		
92420BLK	C8592	109	106	99	105		
176505-1	C8597	111	109	99	105		
176506-1	C8598	106	101	101	103		
176333-1	C8599	107	109	101	103		
176333-2	C8600	107	104	100	104		
176333-3	C8601	113	115	100	103		
176333-4	C8602	108	106	100	101		
176333-5	C8603	113	115	101	104		
176333-6	C8604	103	103	101	104		
176333-7	C8605	111	115	97	102		
176333-1MS	C8606	103	104	98	103		
176333-1MSD	C8607	105	109	97	103		
176333-1DUP	C8608	107	102	103	104		
06-04-03BLK4	C8615	110	112	101	99		
06-04-03BLK3	C8616	110	107	99	104		
176481-1	C8617	112	114	99	104		
176481-2	C8618	109	107	102	104		
176481-3	C8619	112	114	96	102		
176481-4	C8620	106	106	100	102		
176481-5	C8621	112	114	98	102		
176481-6	C8622	107	104	102	103		
176481-7	C8623	112	116	96	101		
176481-8	C8624	109	106	100	102		
176481-9	C8625	109	111	96	101		
176481-10	C8626	396	0	0	0		
Note: POOR PURGE							
176481-11	C8627	106	109	101	107		

Analytical Services, Inc.

Quality Control

Report No. 176481

Volatile Organics by Method EPA 8260
Surrogate Recovery**Batch # 92420****Matrix : AQUEOUS****% Recovery Objectives**

Surrogate #	Surrogate Name	Surrogate Range
S1	Dibromofluoromethane	90 - 111
S2	1,2-Dichloroethane-d4	84 - 121
S3	Toluene-d8	91 - 110
S4	4-Bromofluorobenzene	86 - 108

Sample	File	S1	S2	S3	S4	S5	S6
06-05-03BLK2	C8665	105	107	100	106		
176481-10RR	C8669	106	105	100	107		

Note: REPORTED

Analytical Services, Inc.

Quality Control

Report No. 176481

Volatile Organics by Method EPA 8260
Blank Results Information**Batch # 92420****Matrix : AQUEOUS**

Analyte	Blank	Lowest Sample	Units
	Hits	Det. Limit	
Chlorobenzene	None	5	ug/L
Xylenes	None	5	ug/L

Analytical Services, Inc.

Quality Control

Report No. 176481

Volatile Organics by Method EPA 8260

Sample Batch Information

Batch # 92420

Matrix : AQUEOUS

Sample ID	Preparation				Analysis			
	Date	Time	By	Notes	Date	Time	By	Inst #
92420LCSD	//				06/04/03	0822	MHU	VOA3
92420LCS	//				06/04/03	0840	MHU	VOA3
06-04-03BLK2	//				06/04/03	0933	MHU	VOA3
92420BLK	//				06/04/03	0951	MHU	VOA3
176505-1	//				06/04/03	1121	MHU	VOA3
176506-1	//				06/04/03	1139	MHU	VOA3
176333-1	//				06/04/03	1157	MHU	VOA3
176333-2	//				06/04/03	1215	MHU	VOA3
176333-3	//				06/04/03	1233	MHU	VOA3
176333-4	//				06/04/03	1251	MHU	VOA3
176333-5	//				06/04/03	1309	MHU	VOA3
176333-6	//				06/04/03	1327	MHU	VOA3
176333-7	//				06/04/03	1345	MHU	VOA3
176333-1MS	//				06/04/03	1403	MHU	VOA3
176333-1MSD	//				06/04/03	1421	MHU	VOA3
176333-1DUP	//				06/04/03	1438	MHU	VOA3
06-04-03BLK4	//				06/04/03	1644	MHU	VOA3
06-04-03BLK3	//				06/04/03	1702	MHU	VOA3
176481-1	//				06/04/03	1720	MHU	VOA3
176481-2	//				06/04/03	1738	MHU	VOA3
176481-3	//				06/04/03	1756	MHU	VOA3
176481-4	//				06/04/03	1813	MHU	VOA3
176481-5	//				06/04/03	1832	MHU	VOA3
176481-6	//				06/04/03	1850	MHU	VOA3
176481-7	//				06/04/03	1908	MHU	VOA3
176481-8	//				06/04/03	1925	MHU	VOA3
176481-9	//				06/04/03	1943	MHU	VOA3
176481-10	//			POOR PURGE	06/04/03	2001	MHU	VOA3
176481-11	//				06/04/03	2019	MHU	VOA3
06-05-03BLK2	//				06/05/03	1029	MHU	VOA3
176481-10RR	//			REPORTED	06/05/03	1141	MHU	VOA3

Analytical Services, Inc.

Quality Control

Report No. 176481

**Single Analyte Data
Blank Results Information**

Batch Number	Analyte	Analysis Method	Preparation Method	Units	Blank Result	Matrix
92135	NO3	EPA 9056		mg/L	< 0.0100	AQUEOUS
92135	SO4	EPA 9056		mg/L	< 1.0000	AQUEOUS

Lab Control Information

Batch Number	Analyte	Analysis Method	LC % Rec.	LCD % Rec.	LC/LCD RPD	%Recovery Range	RPD Range
92135	NO3	EPA 9056	96	96	0	87 - 109	0 - 2
92135	SO4	EPA 9056	98	98	0	90 - 110	0 - 3

Matrix Spike Information

Batch Number	Analyte	Analysis Method	MS % Rec.	MSD % Rec.	MS/MSD RPD	%Recovery Range	RPD Range
92135	NO3	EPA 9056	94	94	0	83 - 112	0 - 2
92135	SO4	EPA 9056	94	94	0	85 - 119	0 - 3

Unspiked Sample Duplicate Information

Batch Number	Analyte	Analysis Method	Sample 1 RPD	Sample 2 RPD	RPD Range
92135	NO3	EPA 9056	1	0	0 - 23
92135	SO4	EPA 9056	0	0	0 - 9

Analytical Services, Inc.

Quality Control

Report No. 176481

Single Analyte Data
Sample Batch Information
Analysis : NO3, SO4

Batch # 92135**Matrix : AQUEOUS**

Sample ID	Tag	Preparation			Notes	Analysis			Inst
		Date	Time	By		Date	Time	By	
92135BLK		05/30/03	1130	BAF		05/30/03	1210	BAF	IC
92135CALHIGH		05/30/03	1130	BAF		05/30/03	1231	BAF	IC
92135CALFIVE		05/30/03	1130	BAF		05/30/03	1251	BAF	IC
92135CALMID		05/30/03	1130	BAF		05/30/03	1311	BAF	IC
92135CALLOW		05/30/03	1130	BAF		05/30/03	1332	BAF	IC
92135LCS		05/30/03	1130	BAF		05/30/03	1352	BAF	IC
92135LCSD		05/30/03	1130	BAF		05/30/03	1412	BAF	IC
176520-3		05/30/03	1250	BAF		05/30/03	1433	BAF	IC
176520-3DUP		05/30/03	1250	BAF		05/30/03	1453	BAF	IC
176520-2		05/30/03	1250	BAF		05/30/03	1513	BAF	IC
176520-1		05/30/03	1250	BAF		05/30/03	1554	BAF	IC
176481-1		05/30/03	1250	BAF		05/30/03	1614	BAF	IC
176481-2		05/30/03	1250	BAF		05/30/03	1635	BAF	IC
176481-3		05/30/03	1250	BAF		05/30/03	1655	BAF	IC
176481-4		05/30/03	1250	BAF		05/30/03	1715	BAF	IC
176481-5		05/30/03	1250	BAF		05/30/03	1735	BAF	IC
176481-6		05/30/03	1260	BAF		05/30/03	1756	BAF	IC
DBL05/30		05/30/03	1130	BAF		05/30/03	1830	BAF	IC
CALHIGH		05/30/03	1130	BAF		05/30/03	1851	BAF	IC
CALFIVE		05/30/03	1130	BAF		05/30/03	1911	BAF	IC
176481-7		05/30/03	1255	BAF		05/30/03	1931	BAF	IC
176481-7DUP		05/30/03	1255	BAF		05/30/03	1952	BAF	IC
176481-8		05/30/03	1255	BAF		05/30/03	2012	BAF	IC
176481-9		05/30/03	1255	BAF		05/30/03	2032	BAF	IC
176485-1		05/30/03	1255	BAF		05/30/03	2052	BAF	IC
176485-2		05/30/03	1255	BAF		05/30/03	2113	BAF	IC
176485-3		05/30/03	1255	BAF		05/30/03	2133	BAF	IC
176485-4		05/30/03	1255	BAF		05/30/03	2153	BAF	IC
176485-5		05/30/03	1255	BAF		05/30/03	2214	BAF	IC
176485-6		05/30/03	1255	BAF		05/30/03	2234	BAF	IC
176485-7		05/30/03	1255	BAF		05/30/03	2254	BAF	IC
DBL05/30		05/30/03	1130	BAF		05/30/03	2314	BAF	IC
CALHIGH		05/30/03	1130	BAF		05/30/03	2335	BAF	IC
CALFIVE		05/30/03	1130	BAF		05/30/03	2355	BAF	IC
DBL06/02		06/02/03	1150	BAF		06/03/03	0052	BAF	IC
CALHIGH		06/02/03	1150	BAF		06/03/03	0113	BAF	IC
CALFIVE		06/02/03	1150	BAF		06/03/03	0133	BAF	IC

Analytical Services, Inc.

Quality Control

Report No. 176481

Single Analyte Data
Sample Batch Information
Analysis : NO3, SO4

Batch # 92135

Matrix : AQUEOUS

Sample ID	Tag	Preparation				Analysis			
		Date	Time	By	Notes	Date	Time	By	Inst
176481-6D		06/02/03	1710	BAF	25/100	06/03/03	0254	BAF	IC
^^ Dilution factor: 4									
176481-8MS		06/02/03	1710	BAF		06/03/03	0314	BAF	IC
176481-8MSD		06/02/03	1710	BAF		06/03/03	0335	BAF	IC
DBL06/02		06/02/03	1150	BAF		06/03/03	0516	BAF	IC
CALHIGH		06/02/03	1150	BAF		06/03/03	0536	BAF	IC
CALFIVE		06/02/03	1150	BAF		06/03/03	0557	BAF	IC

ASI**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Services
110 Technology Parkway, Norcross, GA 30092
(770)734-4200 FAX (770)734-4201

SAMPLE RECEIPT VARIANCE FORMAttn: Mr. Gary RisseClient: SAFETY-KLEEN CORPORATION - NORCROSS GA DULUTHProject: SK-Missouri City, Project#73.75115.0005Recvd : 05/30/2003Logged By: BAMNPDES: NWork Order: 176481**OBSERVATIONS**#Samples: 11#Containers: 42pH: n/aTemp(C): 1Ice: YesCustody Seal(s): Intact**CHECKLIST ITEMS****

- | | |
|--|-----|
| 1. COC included with Samples | Yes |
| 2. Chain of Custody Complete | Yes |
| 3. Sample Container(s) Intact | Yes |
| 4. Sample Container(s) Match COC | No |
| 5. Params Designated by Client on COC | Yes |
| 6. Temperature in Compliance | Yes |
| 7. Sufficient Sample Volume for Analysis | Yes |
| 8. Zero HeadSpace Maintained for VOA Analyses | Yes |
| 9. Samples labeled preserved | Yes |
| 10. Samples Received within Allowable Hold Times | Yes |

*Trip Blank not listed on the COC.**Trip Blank added as sample -11.**BAM 5-30-03*

Status: Samples processed as received.

Arrive Via: Fed-X

Airbill:

Contacted:

Date:

By:

** North Carolina Samples ONLY - When a laboratory receives samples which do not meet sample collection, holding time, or preservative requirements, the laboratory must notify the sample collector or client and secure another sample. If another sample cannot be secured, the original sample may be analyzed but the results reported must be qualified with the nature of the infraction(s) and the laboratory must notify the State Laboratory about the infraction(s).
North Carolina Administrative Code, Reference 15A NCAC 2H.0805(a)(7)(N)

ATTACHMENT 6

Well Construction Details

TABLE OF WELL CONSTRUCTION DETAILS

Well number	MW-1	MW-2	MW-3	MW-5	MW-6	MW-7	MW-8	MW-9
Hole diameter (in)	10	10	10	10	10	10	6.25	6.25
Total depth (ft)	20	20	20	30	30	30	21.4	22
Drill method	HSA	HSA	HSA	HSA	HSA	HSA	HSA	HSA
Date drilled	2/3/89	2/13/89	2/13/89	10/22/91	10/22/91	10/22/91	3/21/94	3/21/94
Casing I.D.(in)	4	4	4	4	4	4	4	4
Casing type	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
Stick-up length (in)	2	2	2	2	2	2	2	2
T.O.C.*-MSL**(ft)	74.02	74.15	74.44	73.53	74.9	75.3	73.98	74.85
Ground level-MSL(ft)	74.3	74.27	74.64	73.86	75.2	75.51	74.29	74.27
Capped/lockable	Y	Y	Y	Y	Y	Y	Y	Y
Surface pad size(ft)	1x1.5	1x1	round	1x1	none	2x2	2x2	2x2
Depth to surface seal(ft)	2	2	2					
Annulus fill	sand	sand	sand	sand	sand	sand	sand	sand
Depth to annulus seal(ft)								
Depth to gravel pack(ft)							8-21	8-22
Length of gravel pack(ft)	14	14	14				13	14
Size-gravel pack	40/60	40/60	40/60				40/60	40/60
Depth to screen(ft)	2.5	2.5	2.5	8	10	10	10	10
Screen slot size(in)	.020	.020	.020	.020	.020	.020	.010	.010
Screen type	SLOT PVC	SLOT PVC	SLOT PVC	SLOT PVC	SLOT PVC	SLOT PVC	SLOT PVC	SLOT PVC
Screen length(ft)	17.5	17.5	17.5	10	10	10	10	10
Blank length(ft)								
Dev. method	hand surge	hand surge	hand surge	hand surge	hand surge	hand surge	hand surge	hand surge

*T.O.C. = Top of Casing; **MSL = Mean Sea Level

TABLE OF WELL CONSTRUCTION DETAILS

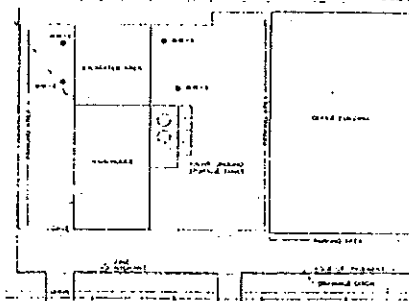
Well number	RW-1							
Hole diameter (in)	8.75							
Total depth (ft)	22							
Drill method	HSA							
Date drilled	3/22/94							
Casing I.D.(in)	6							
Casing type	S. Steel							
Stick-up length	2							
T.O.C.*-MSL**(ft)	74.12							
Ground level-MSL(ft)	74.3							
Capped/lockable	Y							
Surface pad size(ft)	2x2							
Depth to surface seal(ft)								
Annulus fill	sand							
Depth to annulus seal(ft)								
Depth to gravel pack(ft)	7-22							
Length of gravel pack(ft)	15							
Size-gravel pack	40/60							
Depth to screen(ft)	10							
Screen slot size(in)	.010							
Screen type	SLOT PVC							
Screen length(ft)	10							
Blank length(ft)								
Dev. method	hand surge							

*T.O.C. =Top of Casing; **MSL = Mean Sea Level

WELL LOG: MW-1

PROJECT: Safety Kleen
LOCATION: Missouri City, Texas
DRILLING CO.: Custom Coring
DRILLER: Zane Ruffin

PROJECT #: 610-680-8939
DATE DRILLED: 2-13-89
INITIAL WATER LEVEL: NA
AFTER 24 HOURS: NA



LOG BY: M. Matranga
TOP OF CASING: 100.00'

DRILLING METHOD: Hollow Stem Auger
SAMPLE METHOD: 2" Shelby Tube

DEPTH OF WELL: 20.00' DEPTH/HOLE: 20.00' DIA/HOLE: 10.00"
LENGTH/SCREEN: 17.50' DIA/SCREEN: 4.00" SLOT SIZE: 0.020"
LENGTH/CASING: 2.50' DIA/CASING: 4.00" TYPE: PVC

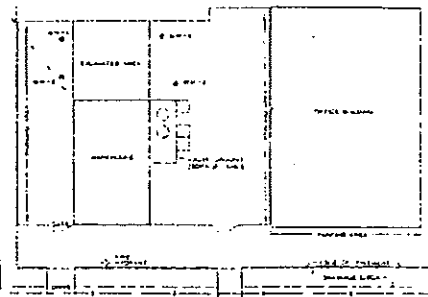
DEPTH IN FEET	WELL DESIGN	NOTES	OVA PPM	SOIL SAMPLE	GRAPHIC LOG	SOIL CLASSIFICATION / DESCRIPTION (COLOR, TEXTURE, STRUCTURE)
0		Flushfill roadbox Concrete				0.00'-0.25' CONCRETE.
		Locking cap	0			0.25'-0.42' BACKFILL SAND.
		Bentonite seal				
		Casing	0			0.42'-4.80' CLAY, black, organic matter, root structures, hematite nodules, few calcareous nodules.
-5			2.4			4.80'-7.70' CLAY, tan with yellow mottling, hematite nodules, organic matter, root structures.
		Sand pack	3.4			
			10			7.70'-13.20' CLAY, red with tan mottling, large amounts of calcareous nodules, hematite nodules, stiff.
-10			520.0	SS		
		Slotted well screen	240.0			
			220.0			13.20'-17.50' SAND, red, very fine.
-15			1.8			
			1.0			17.50'-20.00' CLAY, red with tan mottling, calcareous nodules abound, hematite nodules, stiff.
-20		Threaded end cap				
-25						

Note: SS = Soil Sample

WELL LOG: MW-2

PROJECT: Safety Kleen
LOCATION: Missouri City, Texas
DRILLING CO.: Custom Coring
DRILLER: Zane Ruffin

PROJECT #: 610-680-8939
DATE DRILLED: 2-13-89
INITIAL WATER LEVEL: NA
AFTER 24 HOURS: NA



LOG BY: M. Matranga
TOP OF CASING: 99.75'

DRILLING METHOD: Hollow Stem Auger
SAMPLE METHOD: 2" Shelby Tube

DEPTH OF WELL: 20.00' DEPTH/HOLE: 20.00' DIA/HOLE: 10.00"
LENGTH/SCREEN: 17.50' DIA/SCREEN: 4.00" SLOT SIZE: 0.020"
LENGTH/CASING: 2.50' DIA/CASING: 4.00" TYPE: PVC

DEPTH IN FEET	WELL DESIGN	NOTES	OVA PPM	SOIL SAM- PLE	GRAPHIC LOG	SOIL CLASSIFICATION / DESCRIPTION (COLOR, TEXTURE, STRUCTURE)
0		Flushfill roadbox				
		Concrete Locking cap	NA			0.00'-02.5' CONCRETE.
		Bentonite seal				0.25'-0.42' SAND BACKFILL.
		Casing	20			0.42'-4.20' CLAY, black, organic matter, root structure, hematite nodules, few calcareous nodules.
5			10.2			4.20'-6.50' CLAY, tan with yellow mottling, hematite nodules, organic matter, root structure.
		Sand pack	10			6.50'-9.70' CLAY, red with tan mottling, calcareous nodules, hematite nodules, stiff.
			28			
10			>1000	SS		9.70'-13.00' CLAY, sandy, red, organic matter, hematite nodules, calcareous nodules.
		Slotted well screen	450.0			13.00'-17.20' SAND, red, very fine.
15			500			
			458.0			17.20'-20.00' CLAY, red with tan mottling, calcareous nodules abound, hematite nodules, very stiff.
			450.0			
20		Threaded end cap				
25						

Note: SS = Soil Sample

WELL LOG: MW-3

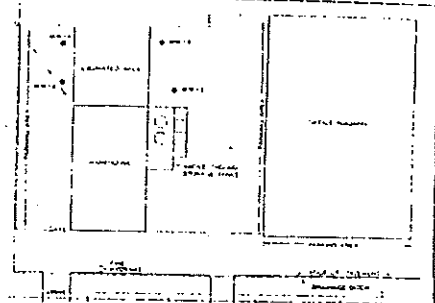
PROJECT: Safety Kleen
LOCATION: Missouri City, Texas
DRILLING CO.: Custom Coring
DRILLER: Zane Ruffin

PROJECT #: 610-680-8939
DATE DRILLED: 2-14-89
INITIAL WATER LEVEL: NA
AFTER 24 HOURS: NA

LOG BY: M. Matranga
TOP OF CASING: 100.12'

DRILLING METHOD: Hollow Stem Auger
SAMPLE METHOD: 2" Shelby Tube

DEPTH OF WELL: 20.00' DEPTH/HOLE: 20.00' DIA/HOLE: 10.00"
LENGTH/SCREEN: 17.50' DIA/SCREEN: 4.00" SLOT SIZE: 0.020"
LENGTH/CASING: 2.50' DIA/CASING: 4.00" TYPE: PVC



DEPTH IN FEET	WELL DESIGN	NOTES	OVA PPM	SOIL SAM- PLE	GRAPHIC LOG	SOIL CLASSIFICATION / DESCRIPTION (COLOR, TEXTURE, STRUCTURE)
0		Flushfill roadbox				
		Concrete Locking cap	0			0.00'-0.25' CONCRETE.
		Bentonite seal				0.25'-0.42' BACKFILL.
		Casing	0			0.42'-4.16' CLAY, black, organic matter, root structures, hematite nodules, few calcareous nodules.
-5			0			4.16'-7.33' CLAY, tan with yellow mottling, hematite nodules, organic matter, root structure.
		Sand pack	3.6			7.33'-10.44' CLAY, red with tan mottling, calcareous nodules, hematite nodules, stiff.
			2.4			10.44'-14.17' CLAY, sandy, very fine, red, organic matter, hematite nodules, calcareous nodules.
-10		Slotted well screen	1.2			14.17'-19.00' CLAY, red with tan mottling, hematite nodules, calcareous nodules.
			4.0	SS		19.00'-19.40' SAND, red, very fine, no structures.
-15			1.2			19.40'-20.00' CLAY, red with tan mottling, calcareous nodules abound, hematite nodules, very stiff.
			0.8			
-20		Threaded end cap	0			
-25						

Note: SS = Soil Sample

WELL LOG: MW-4

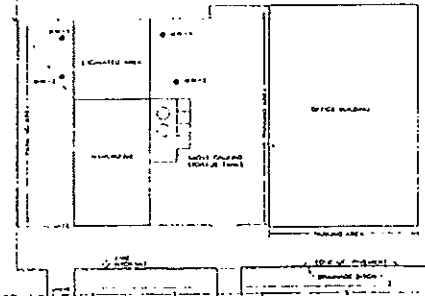
PROJECT: Safety Kleen
LOCATION: Missouri City, Texas
DRILLING CO.: Custom Coring
DRILLER: Zane Ruffin

PROJECT #: 610-680-8939
DATE DRILLED: 2-14-89
INITIAL WATER LEVEL: NA
AFTER 24 HOURS: NA

LOG BY: M. Matranga
TOP OF CASING: 100.06'

DRILLING METHOD: Hollow Stem Auger
SAMPLE METHOD: 2" Shelby Tube

DEPTH OF WELL: 20.00' DEPTH/HOLE: 20.00' DIA/HOLE: 10.00"
LENGTH/SCREEN: 17.50' DIA/SCREEN: 4.00" SLOT SIZE: 0.020"
LENGTH/CASING: 2.50' DIA/CASING: 4.00" TYPE: PVC



DEPTH IN FEET	WELL DESIGN	NOTES	OVA PPM	SOIL SAM- PLE	GRAPHIC LOG	SOIL CLASSIFICATION / DESCRIPTION (COLOR, TEXTURE, STRUCTURE)
0		Flushfill roadbox				0.00'-0.25' CONCRETE.
		Concrete	0			0.25'-0.60' SAND BACKFILL.
		Bentonite seal				0.60'-3.17' CLAY, black, organic matter, root structures, hematite nodules, few calcareous nodules.
		Locking cap	0			3.17'-4.40' CLAY, tan with yellow mottling, hematite nodules, organic matter, root structure.
		Casing				4.40'-6.13' CLAY, red with tan mottling, calcareous nodules, hematite nodules, stiff.
-5			2.0			6.13'-7.75' SAND, red, very fine, hematite nodules, calcareous nodules.
		Sand pack	1.4			7.75'-18.58' CLAY, red, with tan mottling, hematite nodules, calcareous nodules abound, stiff.
			0.8			18.58'-19.16' SAND, red, very fine, no structure.
-10			7.4	SS		19.16'-20.00' CLAY, red with tan mottling, calcareous nodules abound, hematite nodules, very stiff.
		Slotted well screen	3.4			
-15			1.0			
			0.2			
-20		Threaded end cap	0			
-25						

Note: SS = Soil Sample

Please use black ink.
Send original copy by
certified mail to the
Texas Water Commission
P.O. Box 13087
Austin, Texas 78711

State of Texas
WATER WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

1) OWNER John Kleen's Well Address 1212 W. Loop W. Suite 1100 Houston, Texas 77002
(Name) (Street or RFD) (City) (State) (Zip)
2) LOCATION OF WELL:
County Harris miles in 1.5 direction from 121 E. W. Ave. (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:

Section No. _____ Block No. _____ Township _____

Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☒ See attached map.

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening
☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):
☐ Domestic ☐ Industrial ☒ Monitor ☐ Public Supply
☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____

5) DRILLING METHOD (Check): ☐ Driven
☐ Mud Rotary ☐ Air Hammer ☐ Jetted ☒ Bored
☐ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:

Date Drilling: 10-13-89
Started 8:00 AM
Completed 4:00 PM

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
10	SURFACE	20

7) BOREHOLE COMPLETION:

☐ Open Hole ☐ Straight Wall ☐ Underreamed
☒ Gravel Packed ☐ Other _____
If Gravel Packed give interval ... from 1.5 ft. to 20 ft.

From (ft.)	To (ft.)	Description and color of formation material
0 - 1.5	1.5	CLAY, silty, very fine
1.5 - 2.0	2.0	CLAY, silty, very fine
2.0 - 4.0	4.0	CLAY, silty, very fine
4.0 - 10	10	CLAY, silty, very fine
10 - 15	15	CLAY, silty, very fine
15 - 20	20	CLAY, silty, very fine
20 - 25	25	CLAY, silty, very fine
25 - 30	30	CLAY, silty, very fine
30 - 35	35	CLAY, silty, very fine
35 - 40	40	CLAY, silty, very fine
40 - 45	45	CLAY, silty, very fine
45 - 50	50	CLAY, silty, very fine
50 - 55	55	CLAY, silty, very fine
55 - 60	60	CLAY, silty, very fine
60 - 65	65	CLAY, silty, very fine
65 - 70	70	CLAY, silty, very fine
70 - 75	75	CLAY, silty, very fine
75 - 80	80	CLAY, silty, very fine
80 - 85	85	CLAY, silty, very fine
85 - 90	90	CLAY, silty, very fine
90 - 95	95	CLAY, silty, very fine
95 - 100	100	CLAY, silty, very fine

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casing Screen
			From	To	
4	N	SCH 40 PVC PIPE	0	25	
4	N	SCH 40 PVC SCREEN	25	20	100

9) CEMENTING DATA (Rule 319.44(b))

Cemented from 0 ft. to 2.5 ft. No. of Sacks Used 1/2
Cemented by C. C. T.

10) SURFACE COMPLETION

☐ Specified Surface Slab Installed (Rule 319.44(c))
☐ Pile Adapter Used (Rule 319.44(d))
☒ Approved Alternative Procedure Used (Rule 319.71)

11) WATER LEVEL:

Static level _____ ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS:

Type _____ Depth _____

13) TYPE PUMP:

☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:

Type Test: ☐ Pump ☐ Bailor ☐ Jetted ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☐ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME John Kleen's Well
(Type or Print)

Water Well Driller's License No. 27700M

ADDRESS 2030 Harbark
(Street or RFD)

Houston Texas 77092
(City) (State) (Zip)

(Signed) [Signature]
(Licensed Water Well Driller)

(Signed) [Signature]
(Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only
Well No. _____
Located on map _____

5-7
no WWD report

BORING LOG

PROJECT No. 91-461-01
BORING No. MW-5
LOGGED BY Joe Herrin
PAGE No. 1 of 2

PROJECT NAME Safety-Kleen Missouri City, Texas
BORING LOCATION MW-5
DRILLER/RIG Professional Services Industries, Inc. (CME 75)

SURFACE ELEVATION
DATE: START 10/22/91 FINISH 10/22/91

DEPTH	SAMPLE				BLOW COUNT			OVA READING (ppm)		WATER TABLE	LITHOLOGY AND USCS	DEPTH	SOIL DESCRIPTION AND REMARKS
	No.	Type	Interval From	To	0'	6"	12"	Initial	Head Space				
5			0.0	2.0									Drilled through 2 inches of concrete and 22 inches of fill material (moist fat black clay with organic material). Excess material was removed prior to drilling at different depth intervals. No samples were collected from the zero to two foot interval.
	1	ST	2.0	4.0				35				2.0	Moist fat black clay with organic material
	2	ST	4.0	6.0				3	160				
	3	ST	6.0	8.0				5					
	4	ST	8.0	10.0				4					
10	5	ST	10.0	12.0				8	95			10.0	Red silty clay with calcareous nodules
	6	ST	12.0	14.0				3				13.0	Red silty clay with silt interbeds and calcareous nodules
	7	SS	14.0	16.0	4	5	7	0(ND)	100				Saturated red silt
	8	SS	16.0	18.0	5	8	6	0(ND)				16.0	Saturated red and tan silt
	9	SS	18.0	20.0	5	7	8	0(ND)	0.8			18.0	Saturated fat red clay with silty streaks
20	10	ST	20.0	22.0				0(ND)	0.8			20.0	Saturated fat red clay with calcareous nodules

BORING LOG

PROJECT No. 91-461-01
BORING No. MW-5
LOGGED BY Joe Herrin
PAGE No. 2 of 2

PROJECT NAME Safety-Kleen Missouri City, Texas
BORING LOCATION MW-5
DRILLER/RIG Professional Services Industries, Inc.(CME 75)

SURFACE ELEVATION
DATE: START 10/22/91 FINISH 10/22/91

DEPTH	SAMPLE				BLOW COUNT			OVA READING (ppm)		WATER TABLE	LITHOLOGY AND USCS	DEPTH	SOIL DESCRIPTION AND REMARKS
	No.	Type	Interval From	To	0"	6"	12"	Initial	Head Space				
25	11	ST	22.0	24.0				0.2				22.0	Saturated fat red clay with calcareous nodules
													Saturated fat red and gray clay with organics
	12	ST	24.0	26.0				0(ND)				24.0	Saturated fat red and gray clay with calcareous interbeds
	13	ST	26.0	28.0				0(ND)	0.6		CH	26.0	Moist red silty clay with calcareous nodules
30	14	ST	28.0	30.0				0(ND)			OL	29.0	Moist red silty sand
			30.0						0.3		SM	30.0	End of Boring at 30 feet.
35													
40													

Notes:

- Ground water at 13.5.
- OVA head space readings were from four foot composite samples.

BORING LOG

PROJECT No. 91-461-01
BORING No. MW-6
LOGGED BY Joe Herrin
PAGE No. 1 of 2

PROJECT NAME Safety-Kleen Missouri City, Texas

BORING LOCATION MW-6

DRILLER/RIG Professional Svc. Industries, Inc. (CME 75)

SURFACE ELEVATION

DATE: START 10/22/91 FINISH 10/22/91

DEPTH	SAMPLE				OVA READING (ppm)		WATER TABLE	LITHOLOGY AND USCS	DEPTH	SOIL DESCRIPTION AND REMARKS
	No.	Type	INTERVAL		Initial	Head Space				
5			0.0	2.0						Drilled through 2 1/2 inches of concrete, 9 1/2 inches of fill (sand) and 1 foot of moist stiff fat black clay. Excess material was removed prior to drilling at different depth intervals. No samples were collected from the zero to two foot interval.
	1	ST	2.0	4.0	6				2.0	
	2	ST	4.0	6.0	2.5	180			4.0	
10	3	ST	6.0	8.0	70				6.0	Moist stiff fat black clay
	4	ST	8.0	10.0	100	140			8.0	Moist fat gray clay with calcareous streaks
	5	ST	10.0	12.0	8				10.0	Gray and red clay with silt and calcareous streaks
15										Red clay with organics
	6	ST	12.0	14.0	3	200			13.0	Red clay with calcareous nodules
	7	ST	14.0	16.0	2				14.0	Moist red silt with calcareous nodules
20	8	ST	16.0	18.0	0(ND)	40			16.0	Moist red silt with clay stone and calcareous nodules
	9	ST	18.0	20.0	0(ND)				18.0	Fat red clay
	10	ST	20.0	22.0	0(ND)	14.0			20.0	Saturated fine-grained red silty sand
										Moist red fat clay
										Saturated red clay with silty streaks

BORING LOG

PROJECT No. 91-461-01
BORING No. MW-6
LOGGED BY Joe Herrin
PAGE No. 2 of 2

PROJECT NAME Safety-Kleen Missouri City, Texas

BORING LOCATION MW-6

DRILLER/RIG Professional Svcs. Industries, Inc.(CME 75)

SURFACE ELEVATION

DATE: START 10/22/91 FINISH 10/22/91

DEPTH	SAMPLE				OVA READING (ppm)		WATER TABLE	LITHOLOGY AND USCS	DEPTH	SOIL DESCRIPTION AND REMARKS
	No.	Type	INTERVAL		Initial	Head Space				
25	11	ST	22.0	24.0	0(ND)	0.4			22.0	Saturated red clay with silty streaks
										Moist stiff gray clay with calcareous nodules
	12	ST	24.0	26.0	0(ND)				24.0	Moist gray and tan mottled clay
	13	ST	26.0	28.0	0(ND)				26.0	Moist gray and tan mottled clay with calcareous nodules
30	14	ST	28.0	30.0		0.2	CH		28.0	Moist gray and tan mottled clay with silt streaks
			30.0						30.0	Bottom of Boring at 30 feet
35										Notes: 1. Ground water at 14.5 feet. 2. OVA head space readings were from four foot composite samples.
40										

BORING LOG

PROJECT No. 91-461-01
BORING No. MW-7
LOGGED BY Joe Herrin
PAGE No. 1 of 2

PROJECT NAME Safety-Kleen Missouri City, Texas

BORING LOCATION MW-7

DRILLER/RIG Professional Services Industries, Inc. (CME 75)

SURFACE ELEVATION

DATE: START 10/23/91 FINISH 10/23/91

DEPTH H	SAMPLE				OVA READING (ppm)		WATER TABLE	LITHOLOGY AND USCS	DEPTH H	SOIL DESCRIPTION AND REMARKS
	No.	Type	From	To	Initial	Head Space				
5			0.0	2.0						Drilled through 1/2 foot of concrete and 1 1/2 feet fill material (moist fat black clay with organic material). Excess material was removed prior to drilling at different depth intervals. No samples were collected from to zero to two foot interval.
	1	ST	2.0	4.0	0(ND)				2.0	
	2	ST	4.0	6.0	0(ND)				4.0	
10	3	ST	6.0	8.0	0(ND)	0(ND)			6.0	Gray clay with calcareous nodules
	4	ST	8.0	10.0	0(ND)				8.0	Gray clay with organic material
	5	ST	10.0	12.0	1	1.4			10.0	Red clay with calcareous nodules
15										Red and gray clay with calcareous layer
	6	ST	12.0	14.0	1				12.0	Red and gray clay with calcareous and silt streaks
	7	ST	14.0	16.0	0(ND)	4			14.0	Moist red sandy silt with calcareous nodules, clay interbeds and slickensides
20	8	ST	16.0	18.0	0(ND)					
	9	ST	18.0	20.0	0(ND)	0.2			18.0	Moist fat red clay with calcareous nodules and slickensides
	10	ST	20.0	22.0	0(ND)				20.0	Red clay with slickensides

BORING LOG

PROJECT No. 91-461-01
 BORING No. MW-7
 LOGGED BY Joe Herrin
 PAGE No. 2 of 2

PROJECT NAME Safety-Kleen Missouri City, Texas

BORING LOCATION MW-7

DRILLER/RIG Professional Services Industries, Inc.(CME 75)

SURFACE ELEVATION

DATE: START 10/23/91 FINISH 10/23/91

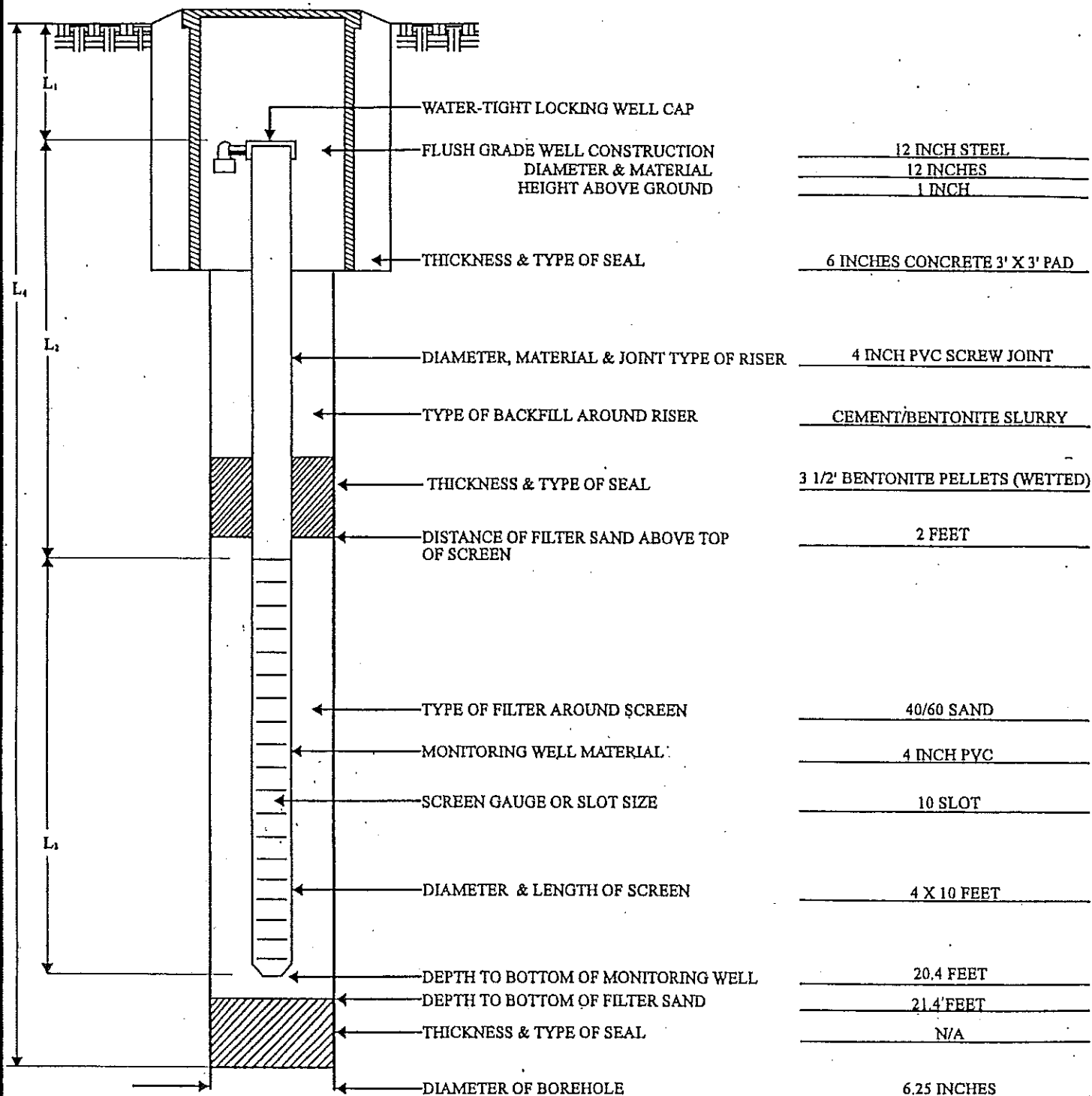
D E P T H	SAMPLE				OVA READING (ppm)		WATER TABLE	LITHOLOGY AND USCD	D L E A P Y T E H R	SOIL DESCRIPTION AND REMARKS
	No.	Type	INTERVAL		Initial	Head Space				
25	11	ST	22.0	24.0	0(ND)	0.2			22.0	Red clay with slickensides
										Gray and red clay with calcareous nodules
	12	ST	24.0	26.0	0(ND)				24.0	Moist clay with iron concretions and silt pockets
	13	ST	26.0	28.0	0(ND)	0.2			26.0	Red and gray clay with some silt
30	14	ST	28.0	30.0	0(ND)					
			30.0			0(ND)			30.0	
35										
40										

Notes:

1. Ground water at 15.0 feet.
2. OVA head space readings were from four foot composite samples.

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: SAFETY-KLEEN MISSOURI CITY MONITORING WELL NO.: MW-8
 JOB NO.: 62-94-039.01 TOP OF RISER ELEVATION: 98.75 Feet



L₁ = 0.4 FT
 L₂ = 10 FT
 L₃ = 10 FT
 L₄ = 21.4 FT

INSTALLATION COMPLETED:
 DATE: 3/21/94
 TIME: 11:30

MONITORING WELL WATER LEVEL MEASUREMENTS		
DATE	TIME	WATER LEVEL *

(*) Depth Below Top Of Riser

ATTENTION OWNER: Confidentiality
Privilege Notice on Reverse SideState of Texas
WELL REPORT

MW-8

Texas Water Well Drillers Board
P.O. Box 13067
Austin, Texas 78711

1) OWNER Safety-Kleen ADDRESS 1000 N. Randall Rd., Elgin, IL 60123
(Name) (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: Ft. Bend 0 miles in Missouri City
County (NE, SW, etc.) direction from (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ LEGAL DESCRIPTION:

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☐ SEE ATTACHED MAP

3) TYPE OF WORK (Check):

☐ New Well ☐ Deepening
☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):

☐ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply
☐ Irrigation ☐ Test Well ☒ Injection ☐ De-Watering

5) DRILLING METHOD (Check):

☐ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Box
☐ Air Rotary ☐ Cable Tool ☒ Other HSA

6) WELL LOG:

Date Drilling:

Started 03-21-94Completed 03-21-94

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
6.25	Surface	21

7) BOREHOLE COMPLETION:

☐ Open Hole ☐ Straight Wall ☐ Underreamed

☒ Gravel Packed ☐ Other _____

If Gravel Packed give interval ... from 08 ft. to 21 ft.

From (ft.)	To (ft.)	Description and color of formation material
0-6		Clay, red
6-14		Clay, gray
14-19		Sandy silt, gray
19-21		Clay, grayish red

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., If commercial	Setting (ft.)		Gage Cast Screen
			From	To	
4	N	Sch. 40 PVC	0	10	-
4	N	Sch. 40 PVC	10	20	0.0

9) CEMENTING DATA [Rule 287.44(1)]

Cemented from 0 ft. to 6 ft. No. of Sacks Used _____

_____ ft. to _____ ft. No. of Sacks Used _____

Method used By Hand

Cemented by Keith Barge

10) SURFACE COMPLETION

☒ Specified Surface Slab Installed [Rule 287.44(2)(A)]

☐ Specified Steel Sleeve Installed [Rule 287.44(3)(A)]

☐ Pitless Adapter Used [Rule 287.44(3)(B)]

☐ Approved Alternative Procedure Used [Rule 287.71]

11) WATER LEVEL:

Static level 15 ft. below land surface Date 01-24-94

Artesian flow _____ gpm. Date _____

12) PACKERS:

Type	Depth
Bentonite	06 to 08

13) TYPE PUMP:

N/A

☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder

☐ Other _____

Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:

N/A

Type Test: ☐ Pump ☐ Baker ☐ Jetted ☐ Estimated

Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable constituents?

☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"

Type of water? _____ Depth of strata _____

Was a chemical analysis made? ☒ Yes ☐ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Best Drilling Services, Inc. WELL DRILLER'S LICENSE NO. 4786M
(Type or print)

ADDRESS P.O. Box 845 Friendswood Texas 77546
(Street or RFD) (City) (State) (Zip)

(Signed) Paul Bay (Signed) _____
(Licensed Well Driller) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map _____

PROJECT NAME/LOCATION:					Project Number	62-94-039.01	Boring Number	MW-8
SAFETY-KLEEN CORPORATION 1580 Industrial Drive Missouri City, Texas					Contractor	Best Drilling Services	Drilling Method	Hollow Stem Auger
					Driller	Keith	Drilling Rig	B57 Mobile Drill
					Start	3/21/94 10:05	Completed	11:30
Landowner: Safety-Kleen					Surface Elev.	99.15 feet	Logged By	MDC
Sample		Blow Count	Sample		Depth Scale 1" = 4'	Descriptions of Materials and Conditions	Observations	
Type	No.		Interval (ft)	Recovery (in.)			Instrument: hNu Units: ppm	General Observations Notes
NA	NA	NA	NA	NA	1	Concrete (2 1/2 inches), CH, Fat moist red clay, minor silt	0	
					2			
					3			
					4			
					5		0	
					6	Moist fat gray clay with calcareous streaks		
					7			
					8		0	
					9			
					10			
					11		0	
					12			
					13			
					14	ML, Gray sandy silt slightly moist		
					15			
					16			
					17		0	
					18			
					19	CH, Fat grayish red clay, very moist		
					20			
					21		0	
					22			
					23	TD= 21.4'		

BOREHOLE WATER LEVEL DATA

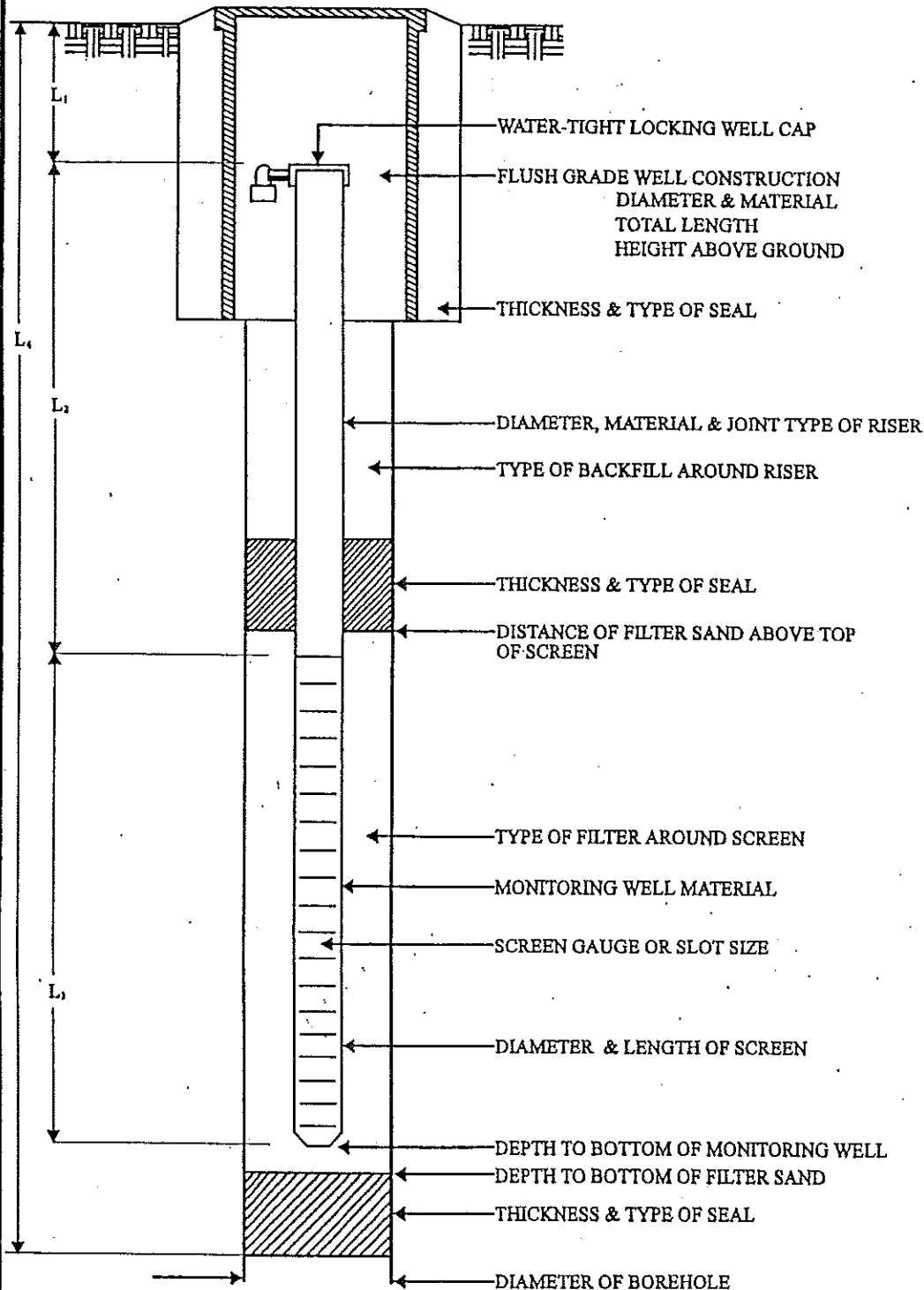
Date	3/21/94		
Time	NA		
GWL	NA		
Casing Depth	20.40 feet		

Sheet 1 of 1

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT: SAFETY KLEEN MISSOURI
JOB NO.: 62-94-039.01

TY MONITORING WELL NO.: MW-9
TOP OF RISER ELEVATION: 98.64



12 INCH STEEL
12 INCHES
1 INCH
6 INCHES CONCRETE 3' X 3' PAD
4 INCH PVC SCREW JOINT
CONCRETE/BENTONITE SLURRY
3 1/2' BENTONITE PELLETS (WETTED)
2 FEET
40/60 SAND
4 INCH PVC
10 SLOT
4" X 10'
20.55'
22 FEET
N/A
6.25"

L_1 = 0.55 FT
 L_2 = 10 FT
 L_3 = 10 FT
 L_4 = 22 FT

INSTALLATION COMPLETED:

DATE: 3/21/94

TIME: 15:30

MONITORING WELL WATER LEVEL MEASUREMENTS		
DATE	TIME	WATER LEVEL *

(*) Depth Below Top Of Riser

ATTENTION OWNER: Confidentiality
Privacy Notice on Reverse SideState of Texas
WELL REPORT

MW-9

Texas Water Well Drillers Board
P.O. Box 13067
Austin, Texas 78711

1) OWNER Safety-Kleen ADDRESS 1000 N. Randall Rd., Elgin, IL 60123
(Name) (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL:
County Ft. Bend 0 miles in _____ direction from Missouri City
(NE, SW, etc.) (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ LEGAL DESCRIPTION:

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☐ SEE ATTACHED MAP

3) TYPE OF WORK (Check):

☐ New Well ☐ Deepening
☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):

☐ Domestic ☐ Industrial ☒ Monitor ☐ Public Supply
☐ Irrigation ☐ Test Well ☐ Injection ☐ De-watering

5) DRILLING METHOD (Check):

☐ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bore
☐ Air Rotary ☐ Cable Tool ☒ Other HSA

6) WELL LOG:

Date Drilling:
Started 03-21-94 19____
Completed 03-21-94 19____

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
6.25	Surface	22

7) BOREHOLE COMPLETION:

☐ Open Hole ☐ Straight Wall ☐ Underreamed
☒ Gravel Packed ☐ Other _____
 If Gravel Packed give Interval ... from 08 ft. to 22 ft.

From (ft.) To (ft.) Description and color of formation material

0-5.5 Clay, red
5.5-12.5 Clay, gray
12.5-17.5 sandy silt, gray
17.5-22 Clay, grayred

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casing Screen
			From	To	
4	N	Sch. 40 PVC	0	10	-
4	N	Sch. 40 PVC	10	20	0.0

9) CEMENTING DATA [Rule 287.44(1)]

Cemented from 0 ft. to 6 ft. No. of Sacks Used _____
 _____ ft. to _____ ft. No. of Sacks Used _____

Method used By Hand
 Cemented by Keith Barge

10) SURFACE COMPLETION

☒ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 287.44(3)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 287.71]

11) WATER LEVEL:

Static level 15 ft. below land surface Date 01-24-94
 Artesian flow _____ gpm. Date _____

12) PACKERS:

Type _____ Depth _____
Bentonite 06 to 08

13) TYPE PUMP: N/A
☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other _____

Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:

Type Test: N/A ☐ Pump ☐ Bailor ☐ Jetted ☐ Estimated
 Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
 Type of water? _____ Depth of strata _____
 Was a chemical analysis made? ☒ Yes ☐ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Best Drilling Services, Inc.
 (Type or print)

WELL DRILLER'S LICENSE NO. 4786M

ADDRESS P.O. Box 845
 (Street or RFD)

Friendswood Texas 77546
 (City) (State) (Zip)

(Signed) Keith Barge
 (Licensed Well Driller)

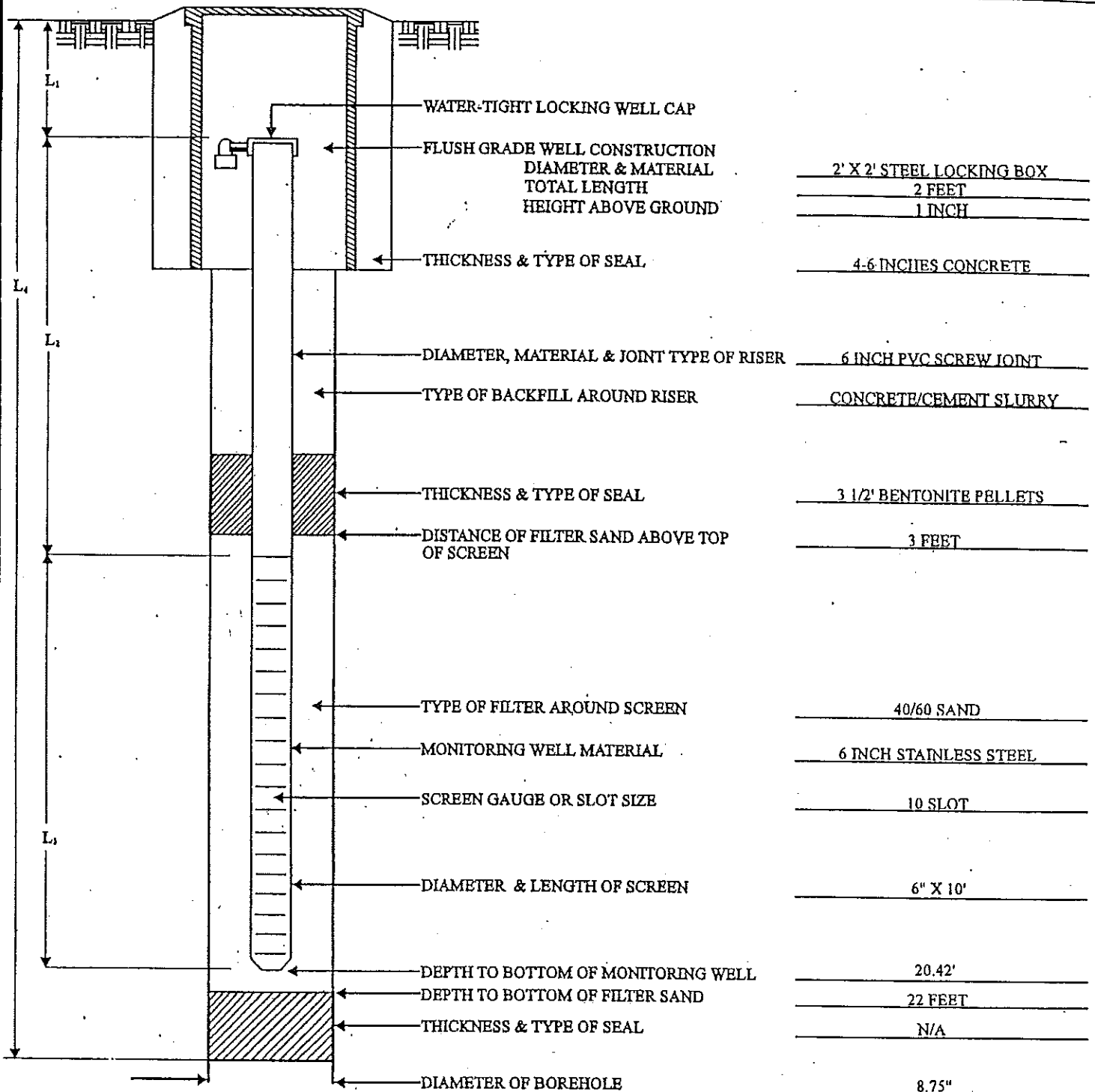
(Signed) _____
 (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map _____

REWORK OF FLUSH GRADE MONITORING WELL

PROJECT: SAFETY KLEEN MISSOURI CITY MONITORING WELL NO.: RW-1 (MW-4)
 JOB NO.: 62-94-039.01 TOP OF RISER ELEVATION: 98.86



2' X 2' STEEL LOCKING BOX
2 FEET
1 INCH
4-6 INCHES CONCRETE
6 INCH PVC SCREW JOINT
CONCRETE/CEMENT SLURRY
3 1/2' BENTONITE PELLETS
3 FEET
40/60 SAND
6 INCH STAINLESS STEEL
10 SLOT
6" X 10'
20.42'
22 FEET
N/A
8.75"

L_1 = 0.42 FT
 L_2 = 10 FT
 L_3 = 10 FT
 L_4 = 22 FT

INSTALLATION COMPLETED:
 DATE: 3/22/94
 TIME: 10:40

*WW D Report says PVC
 Schematic says
 Stainless steel?*

MONITORING WELL WATER LEVEL MEASUREMENTS		
DATE	TIME	WATER LEVEL *

(*) Depth Below Top Of Riser

ATTENTION OWNER: Confidentiality
Privilege Notice on Reverse SideState of Texas
WELL REPORT

RW-1 (MW-4)

Texas Water Well Drillers Board
P.O. Box 13067
Austin, Texas 78711

1) OWNER Safety-Kleen ADDRESS 1000 N. Randall Rd., Elgin, IL 60123
(Name) (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL:
County Ft. Bend 0 miles in Missouri City direction from Missouri City
(NE, SW, etc.) (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ LEGAL DESCRIPTION:

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☐ SEE ATTACHED MAP

3) TYPE OF WORK (Check):

☐ New Well ☐ Deepening
☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):

☐ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply
☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) DRILLING METHOD (Check):

☐ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Box
☐ Air Rotary ☐ Cable Tool ☒ Other HSA

6) WELL LOG:

Date Drilling:

Started 03-22-94Completed 03-22-94

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
<u>8.25</u>	<u>Surface</u>	<u>22</u>

7) BOREHOLE COMPLETION:

☐ Open Hole ☐ Straight Wall ☐ Underreamed☒ Gravel Packed ☐ Other _____If Gravel Packed give interval ... from 07 ft. to 22 ft.

From (ft.) To (ft.) Description and color of formation material

0-4.5 Clay, black
4.5-7 Clay, gray
7-9.5 Clay with silt, gray & red
9.5-11 Clay, red
11-13 Clay, red
13-16.5 silt, red
16.5-18.5 Clay, red
18.5-20 Silty sand, red
20-22 Clay, red

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Cast. Screen
			From	To	
<u>4</u>	<u>N</u>	<u>Sch. 40 PVC</u>	<u>0</u>	<u>10</u>	<u>-</u>
<u>4</u>	<u>N</u>	<u>Sch. 40 PVC</u>	<u>10</u>	<u>20</u>	<u>0.0</u>

9) CEMENTING DATA [Rule 287.44(1)]

Cemented from 0 ft. to 7 ft. No. of Sacks Used 3.5
_____ ft. to _____ ft. No. of Sacks Used _____Method used By HandCemented by Keith Barge

10) SURFACE COMPLETION

☐ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☒ Specified Steel Sleeve Installed [Rule 287.44(3)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 287.71]

11) WATER LEVEL:

Static level 15 ft. below land surface Date 01-24-94
Artesian flow _____ gpm. Date _____

12) PACKERS:

Type Depth
Bentonite 05 to 07

13) TYPE PUMP:

N/A☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder
☐ Other _____

Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:

N/AType Test: ☐ Pump ☐ Beller ☐ Jetted ☐ Estimated
Yield: _____ gpm with _____ ft. drawdown after _____ hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable constituents?

☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"

Type of water? _____ Depth of strata _____

Was a chemical analysis made? ☐ Yes ☒ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Base Drilling Services, Inc. WELL DRILLER'S LICENSE NO. 4780M
(Type or print)ADDRESS P.O. Box 845 Friendswood Texas 77546
(Street or RFD) (City) (State) (Zip)(Signed) Keith Barge (Signed) _____
(Licensed Well Driller) (Registered Driller Trainee)

PROJECT NAME/LOCATION:			Number		02-94-039.01		Number		RW-1 (MW-4)			
SAFETY-KLEEN CORPORATION 1580 Industrial Drive Missouri City, Texas					Con- tractor		Best Drilling Servi		Drilling Method		Hollow Stem Auger (11.50	
					Driller		Keith		Drilling Rig		B57 Mobile Drill	
					Start		3/22/94 9:45		Completed		10:40	
Landowner: Safety-Kleen					Surface Elev.		99.28 feet		Logged By		MDC	
Sample		Blow Count	Sample		Depth Scale 1" = 4'	Descriptions of Materials and Conditions		Observations				
Type	No.		Int- erval (ft)	Rec- overy (in.)				Instrument: hNu Units: ppm		General Observatio Notes		
NA	NA	NA	NA	NA								
					1	Concrete (2 1/2 inches), CH, Moist stiff fat black clay		0				
					2							
					3							
					4							
					5	Moist fat gray clay with calcareous streaks		0				
					6							
					7	Gray and red clay with silt and calcareous streaks						
					8			0				
					9							
					10	Red clay moist						
					11	Red clay with calcareous nodules		0				
					12							
					13	ML, Moist red silt with calcareous nodules						
					14							
					15							
					16							
					17	CH, Fat red clay		0				
					18							
					19	SM, Saturated fine-grained red silty sand						
					20	CH, Moist red fat clay						
					21			0				
					22	TD= 21'						
					23							

BOREHOLE WATER LEVEL DATA			
Date	3/22/94		
Time	NA		
GWL	NA		
Casing Depth	20.42 feet		

Sheet 1 of 1



SAFETY-KLEEN CORPORATION
1580 Industrial Drive
Missouri City, Texas

MW-9

Contractor

Best Drilling Service

Number

Drilling Method

Hollow Stem Auger

Driller

Keith

Drilling Rig

B57 Mobile Drill

Start

3/21/94 12:00

Completed

15:30

Landowner: Safety-Kleen

Surface Elev.

99.19 feet

Logged By

MDC

Sample

Sample

Type

No.

Blow Count

Interval (ft)

Recovery (in.)

Depth Scale
1" = 4'

Descriptions of Materials and Conditions

Observations

Instrument:
hNu
Units: ppm

General
Observations
Notes

NA

NA

NA

NA

NA

1

Concrete (2 1/2 inches), CH, Moist red clay, minor silt

0

2

3

4

5

Moist fat gray clay with calcareous streaks

0

6

7

8

9

0

10

11

0

12

ML, Gray sandy silt slightly moist

13

14

15

16

17

CH, Fat grayish red clay, very moist

0

18

19

20

21

0

22

TD= 22'

23

BOREHOLE WATER LEVEL DATA

Date

3/21/94

Time

NA

GWL

NA

Casing Depth

20.55 feet

Sheet 1 of 1



ATTACHMENT 7

Sample Analysis Plan



RECEIVED
JUN 23 2003
REGION 12

FAX TRANSMISSION

SAFETY-KLEEN SYSTEMS, INC
5243 SINCLAIR ROAD
SAN ANTONIO, TX 78222
PHONE: 210 648 0744
FAX: 210 648 0212

TO: CHARLES BURNER

FROM: RICARDO SAUCEDO

FAX#: (713) 767-3646

PAGES: ~~26~~ 23

PHONE#: (713) 767-3614

DATE: 6/20/03

COMMENTS:

MR. BURNER -

I WAS ABLE TO FIND A COPY OF THE
SAMPLING & ANALYSIS PLAN (MICROFILM) FOR
THE MISSOURI CITY BRANCH. (PLEASE SEE PAGE 8 OF 17).

THANKS.

RS



FLUOR DANIEL GTI

RECEIVED
JUN 23 2003
REGION 12

MAJOR AMENDMENT TO
THE COMPLIANCE PLAN (CP-50236)

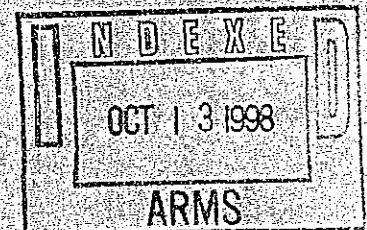
SAFETY-KLEEN CORP.
1580 Industrial Drive
Missouri City, Texas

RECEIVED
JUN 23 2003
REGION 12

April 1998

Prepared for:

Ms. Sara C. Brothers, C.P.G.
Senior Project Manager - Remediation
Safety-Kleen Corp.
2720 Girard Boulevard NE
Albuquerque, New Mexico 87107



Prepared by:

Fluor Daniel GTI, Inc.
2501 Yale Boulevard SE, Suite 204
Albuquerque, New Mexico 87106

2501 Yale Boulevard Southeast, Suite 204 Albuquerque, NM 87106 USA (505) 242-3113 FAX (505) 242-1103

Revised April 1998

FOR DEPARTMENT USE ONLY

Texas Natural Resource
Conservation Commission
Executive Director
Industrial & Hazardous Waste Division
Permits Section

Application No. _____
Compliance Plan No. CP- 50236
Administrative Review by: _____
Administratively Complete: _____
Number of Copies Received: _____

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
COMPLIANCE PLAN APPLICATION

PART I

GENERAL INFORMATION

1 Applicant Information

Safety-Kleen Corporation

(Name of individual, corporation or other legal entity name)

(Previous or former names of the facility, if applicable)

One Brinkman Way

(Mailing address)

Elgin, IL 60123-7857

(City, state, zip code)

(847) 468-2200

(Area code and telephone number)

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

29198

(Charter Number)

2 Identify current owner(s) of the facility's property if different than the applicant)

Compliance Plan Application
TNRCC-0076 (Rev. 06-16-97)

Facility Name: Safety-Kleen Corp. Missouri City Facility
ISW Reg. No. 71148

06/13/2003 TCEQ

FOR DEPARTMENT USE ONLY

Texas Natural Resource
Conservation Commission
Executive Director
Industrial & Hazardous Waste Division
Permits Section

Application No. _____
Compliance Plan No.: CP- 50236
Administrative Review by: _____
Administratively Complete: _____
Number of Copies Received: _____

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION
COMPLIANCE PLAN APPLICATION

PART I

GENERAL INFORMATION

1. Applicant Information

Safety-Kleen Corporation

(Name of individual, corporation or other legal entity name)

(Previous or former names of the facility, if applicable)

One Brinckman Way

(Mailing address)

Elgin, IL 60123-7857

(City, state, zip code)

(247) 468-2200

(Area code and telephone number)

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

29308

(Charter Number)

2.

(Identify current owner(s) of the facility's property if different than the applicant)

Compliance Plan Application
TNBCC 0006 (Rev. 06-16-97)

Facility Name: Safety-Kleen Corp. Missouri City Facility
ISW Reg. No.: 71143

Revised April 1998

3. Agents and Responsible Parties

If, for any reason, the applicant designates an agent authorized to act for the applicant during the processing of the application, designated persons or firms along with complete mailing address and telephone number must be listed below. If the application is submitted by a corporation or individual residing out of state, the applicant is required to designate an Agent in Service or Agent of Service who is a Texas resident.

Responsible Party: Ms. Sara C. Brothers, Safety-Kleen Corp., 2720 Girard Blvd NE, Albuquerque, NM
87107 (505) 888-3952
Agent: Freemite-Hall Corporation System, Inc., 400 North Paul Street, Dallas, TX 75201
(800) 621-6526

List the individual and his/her mailing address who will be responsible for causing notice to be published in the newspaper.

Ms. Sara C. Brothers, Safety-Kleen Corp., 2720 Girard Blvd NE, Albuquerque, NM 87107 (505) 888-3952

4. Facility Information

Facility Name: Safety-Kleen Corporation - Missouri City Facility
Physical address: 1580 Industrial Drive
City: Missouri City County: Fort Bend

Provide a brief written description of the portion of the facility covered by this application: Inactive Tank
Per AA in Attachment A of the Compliance Plan

Identify the city and a major highway intersection closest to the facility: Industrial Road at Gessner
The total acreage of the facility being permitted: 0.494 acres

Geographical Latitude: N29°37'13" Geographical Longitude: W95°32'20"

Identify the name of the drainage basin and segment where the facility is located: Segment No. 1102 of the
San Jacinto - Brazos Coastal Basin

List Industrial Solid Waste (ISW) Registration Number(s) for the facility: ISW 71144
EPA ID No.: TXD010803203

Industrial and Hazardous Waste Permit No. (if not a new application): HW50236

Municipal Solid Waste Permit No. (if applicable): N/A

Air Permit No(s): (if applicable): N/A

Wastewater Permit No(s): (if applicable): DD6133

5. Is the facility located within the Coastal Management Program boundary? Yes ☒ NO
(Page 1 of the application instructions list telephone numbers for inquiries or questions.)

6. Application Type (Check the Appropriate Type)

☐ New Compliance Plan☐ Compliance Plan Renewal☒ Amendment (Check the Appropriate Amendment)☒ Major ☐ Minor☐ Modification (Check the Appropriate Modification)☐ Class 3 ☐ Class 2 ☐ Class 1 ☐ Class 1

7. When applying for a modification or amendment to a Compliance Plan, indicate in the table the following: the Section of the Compliance Plan being modified or amended; a brief description of the proposed change; the type of modification (e.g., Class 1, 2 or 3) or amendment (Minor or Major Amendment); and the regulatory citation which supports the modification or amendment. The applicant should describe the exact change(s) to be made to the Compliance Plan conditions. Any proposed language may be submitted as an attachment to Part I of this application.

Compliance Plan Section	Brief Description of Proposed Change	Modification or Amendment Type	Supporting Regulatory Citation
Site owner address, Part II B and C, Part III B, Part V B, Part VI D3, Part VII B, Part VIII C and D	Change the Corrective Action Program from groundwater recovery and treatment to intrinsic bioremediation and natural attenuation (see Appendix E to this application for exact wording of proposed changes)	Major	30 TAC 305.66

8. An up-to-date list and mailing address of the adjacent landowners and other landowners who may be affected by the activities described by this application. The landowners list should be cross-referenced with a map which indicates the boundaries of all adjacent parcels of land and landowners. Cross-reference this list to the map through the use of appropriate keying techniques. The map should be a U.S.G.S. map, a city or county plat, or another map, sketch, or drawing with a scale adequate enough to show the cross-referenced landowner. The list should be updated prior to any required public notice. See Attachment C for this information.

9. Application Certification

The Compliance Plan Application Signature Page (page 4 of this application) should be appropriately completed and signed for a new Compliance Plan Application, renewal of a currently issued compliance plan, or for an amendment or modification to a currently issued compliance plan. The applicant should review and follow the guidance of Item 7, page iv in the Compliance Plan Application instructions for proper completion of the Application Signature Page.

Revised April 1998

CERTIFICATION

APPLICATION SIGNATURE PAGE

I, Sara C. Brothers (Name) Senior Project Manager - Remediation (Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: [Signature] (Applicant) Date: 4/28/98

Signature: _____ (Owner, if different than applicant) Date: _____

TO BE COMPLETED BY THE APPLICANT IF THE APPLICATION IS SIGNED BY AN AGENT FOR THE APPLICANT:

I, _____ (Print or Type Name), hereby designate _____ (Print or Type Name)

as my agent and hereby authorize said agent to sign my application, submit additional information as may be requested by the Commission, and/or appear for me at any hearing or before the Commission in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit or compliance plan. I further understand that I am responsible for oral statements given by my agent in support of the application, for compliance with the terms and conditions of any plan which might be issued based on this application.

(Type or Print Name)

(Signature)

NOTE: APPLICATION MUST BEAR SIGNATURE AND SEAL OF NOTARY PUBLIC

SUBSCRIBED AND SWORN to before me by the said Sara C. Brothers
on this 28th day of April
My commission expires on the 14 day of January 2002

(Seal)

Notary Public in and for

Bernalillo

County, Texas
New Mexico

Compliance Plan Application
TNROC-0006 (Rev. 06-16-97)

Facility Name: Safety-Kleen Core Missouri City Facility
ISW Reg. No.: 71144

Revised April 1998

Texas Natural Resource
Conservation Commission
Austin, Texas

Compliance Plan No. CP-50236

EPA ID No. TXD010803203
ISWR No. 71144

COMPLIANCE PLAN FOR INDUSTRIAL
SOLID WASTE MANAGEMENT SITE
Issued under provisions of TEXAS
HEALTH AND SAFETY CODE ANN
Chapter 361 and Chapter 26 of the Texas
Water Code

This Compliance Plan is issued in conjunction
with Permit No. HW-50236

Name of Permittee

Safety-Kleen Corporation
1580 Industrial Road
Missouri City, Texas 77459

Site Owner

Safety-Kleen Corporation
1000 North Randall Road
One Brickman Way
Elgin, IL 60123

Registered Agent for
Service

Prentice-Hall Corporation System Inc.
G.T. Corporation
400 North Paul Street
1601 Elm Street
Dallas, Texas 75201
(800) 621-6526

Classification of Site

Class I Hazardous Waste Storage and
Processing - Post-Closure Care

The Permittee is required to conduct the corrective action and ground-water monitoring programs in accordance with limitations, requirements, and other conditions set forth herein. This Compliance Plan is issued subject to the rules and other Orders of the Texas Natural Resource Conservation Commission (TNRCC) and laws of the State of Texas. Nothing in this Compliance Plan exempts the Permittee from compliance with applicable rules and regulations and/or permits of the TNRCC Office of Air Quality.

This Compliance Plan remains in effect until amended or revoked by the Commission. This Compliance Plan will be reviewed upon expiration of Permit No. HW-50236 and modified as necessary to assure compliance with 30 TAC Chapters 305 and 335.

ISSUED DATE

ATTEST

For The Commission

TNRCC-0050 (Rev. 10-09-93)

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I. SIZE AND LOCATION OF FACILITY

- A. The industrial solid waste management facility is located on the north side of Industrial Drive at Gessner, Fort Bend County, Texas. The facility is in the drainage area of Segment No. 1102 of the San Jacinto-Brazos Coastal Basin (North Latitude 29° 37' 13", West Longitude 95° 32' 20").

The term "Uppermost Aquifer" as referenced in this Compliance Plan refers to the uppermost or first water-bearing zone ranging in top elevation from 61.70 feet above Mean Sea Level (MSL) to 61.89 feet above MSL recorded on December 17, 1991. It varies in thickness from four to eight feet.

- B. The Compliance Plan is specific to the industrial facility's inactive tank pit area AA as depicted on Attachment A, for which the groundwater Corrective Action Program applies pursuant to 30 TAC §335.166 for a release from a RCRA regulated unit.

- C. All dates in this Compliance Plan shall be referenced to the date of issuance of this Compliance Plan by the Texas Natural Resource Conservation Commission.

- D. All provisions in this Compliance Plan stem from state authority.

II. CORRECTIVE ACTION SYSTEM - Components and Functions Authorized

The Permittee is authorized to install and operate the following corrective action system components subject to the limitations contained herein. The Corrective Action System shall consist of the following components:

- A. A system of three categories of monitor wells with which to establish groundwater quality:

1. Background Well that is unaffected by the operation of the facility;
2. Point of Compliance Wells to demonstrate compliance with the Ground-Water Protection Standard; and
3. Corrective Action Observation Wells to evaluate the extent of ground-water contamination in the Uppermost Aquifer and evaluate the effectiveness of the corrective action/recovery program.

- B. Groundwater Corrective Action System to effect remediation of contaminated groundwater by means of natural attenuation, recovery wells, interceptor trenches, bioremediation, air sparging, and/or another alternate Corrective Action System design. Any alternate Corrective Action System design proposed by the Permittee subsequent to issuance of this Compliance Plan that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the Compliance Plan upon approval by the Executive Director. The type of Corrective Action System in operation at the facility and an evaluation of system performance shall be reported in accordance with Section VII B2, Recovery Wells to withdraw contaminated ground water, and

- G. Treatment system to reduce the concentration of Hazardous Constituents in recovered ground water.

III. GENERAL DESIGN, CONSTRUCTION AND OPERATION REQUIREMENTS

- A. The design, construction, and operation of the authorized components of the Corrective Action Program and the Ground-Water Monitoring Program must comply with this Compliance Plan, Texas Natural Resource Conservation Commission Rules, and be in accordance with the plans and specifications for design, construction, and operation approved herein. Except as modified below and elsewhere, all plans submitted with the Safety-Kleen Corporation, Missouri City, Texas Service Center Compliance Plan Application, January 20, 1992, are approved, subject to the terms of this Compliance Plan and other Orders of the Texas Natural Resource Conservation Commission.
- B. Treatment of recovered ground water by means of pumping the contaminated water at a low rate through a dual-canister liquid phase granular activated carbon (LGAC) system. The treated water will be disposed of to the local publicly owned treatment works (POTW). The Permittee shall conduct periodic monitoring of natural attenuation parameters (Table V) in on-site groundwater monitoring wells and use results to demonstrate the occurrence of natural attenuation.
- C. The Permittee shall maintain a list of disposal methods of all recovered contaminated ground water pursuant to this Compliance Plan, including water purged from wells during sampling at each well, and make it available for inspection upon request.
- D. Well Construction, Installation, Certification, Abandonment and Plugging Procedures
1. The wells shall be constructed and maintained so ground-water samples are representative of the aquifer's water quality. A record of drilling and construction details demonstrating compliance with the terms of this Section of this Compliance Plan shall be prepared in accordance with Attachment B. Monitor wells constructed prior to issuance of Compliance Plan may be utilized as monitoring wells when specifically designated in Table III.
 2. For all new ground-water monitor wells to be constructed after issuance of this Compliance Plan, the Permittee shall notify the Executive Director to report the proposed monitor well location and screen interval within thirty (30) days in advance of the anticipated date of installation or in accordance with an approved schedule for installation. Alternatively, a schedule for installation issued as part of an approved work plan shall constitute such notification. New well installation shall commence upon written approval of the Executive Director, within time frames specified in this Compliance Plan or in an approved work plan. If the Permittee or the Executive Director determines that the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of groundwater quality, then the Permittee shall replace the well. The Permittee shall notify the Executive Director within fifteen (15) days of such determination and the Permittee shall notify the Executive Director at least ten (10) days prior to removing a well from service.

3. Unless the Permittee, as part of the notification required by this Section III.D, proposes an alternate well design that will result in wells of equivalent performance and specifications, each monitor well installed after issuance of this Compliance Plan shall follow the design specifications contained in Attachment B of this Compliance Plan.
 4. Replacement well shall be drilled within fifteen (15) feet of the well being replaced unless an alternate location is authorized by the Executive Director.
 5. For all wells to be plugged and abandoned after issuance of this Compliance Plan, the Permittee shall follow the procedures specified in Attachment B. The Permittee shall submit a replacement monitor well certification to the Executive Director in accordance with this Section and Attachment B.
- E. The Permittee shall not install or maintain any drinking water or supply wells within plumes of ground-water contamination at the facility.

IV. CORRECTIVE ACTION OBJECTIVES AND GROUND-WATER PROTECTION STANDARD

- A. The Ground-Water Protection Standard defines the objective of groundwater quality restoration, with respect to Hazardous Constituents, which is to be achieved at the Point of Compliance and throughout the contaminated ground water by operation of the Corrective Action Program at this facility.
- B. Hazardous Constituents are specified in Table I Column A.
- C. Concentration Limits are specified in Table I, Column B as non-detectable values as determined by analytical method practical quantitation limits (PQL) based on Appendix IX of 40 CFR Part 264. These values shall be utilized as concentration limits of the Ground-Water Protection Standard and shall be the mean values for statistical comparisons unless Table I is amended in accordance with current guidance and regulations to authorize Alternate Concentration Limits (ACL) as defined in 30 TAC §335.160 (b) or Maximum Concentrations of Constituents (MCCs), Maximum Contaminant Levels (MCLs), Health-Based Risk Assessment Levels, or any other accepted levels as they are promulgated by the Texas Natural Resource Conservation Commission or the Environmental Protection Agency. Upon promulgation of additional concentration limits for the hazardous constituents of Table I, the Executive Director or the Permittee may request to replace those concentration limits with these newly promulgated concentration limits through a modification to this Compliance Plan in accordance with 30 TAC §305.69.
- D. Point of Compliance is designated on Attachment A, and is further defined for purposes of this Compliance Plan by Table III, which identifies Point of Compliance Wells for which ground-water monitoring procedures will apply (Section VI).
- E. Compliance Period for the regulated unit is specified in Table IV, which shall commence with the issuance of this Compliance Plan (January 14, 1994).

VI. GROUND-WATER MONITORING PROGRAM

The Permittee shall install, operate and maintain a ground-water monitoring program to evaluate the effectiveness of the Corrective Action Program for the unit AA under remediation. The monitoring program for Corrective Action shall include Background Wells, Point of Compliance Wells, Recovery Wells, and Corrective Action Observation Wells.

A. Waste Management Area Specific Background Ground-Water Quality

The Permittee may submit to the Executive Director for review and approval a plan to determine waste management area specific background values of the naturally-occurring hazardous constituents of Table I in lieu of the concentration limits given in this Table. The plan shall include appropriate background monitor well locations and screened intervals, well sampling schedules, and methodology for determining and expressing background values in a form appropriate for the statistical evaluation of the monitoring results. If statistical procedures are to be used in accordance with Section VI.D. Once background values have been established, the Permittee shall submit a Modification request to the Executive Director in accordance with 30 TAC §305.69 to replace the concentration limits of Table I with the background values.

B. Sampling and Analysis Plan

1. Monitor wells, designated in Table III shall be sampled according to the Sampling and Analysis Plan dated included in Attachment F, January 28, 1992. The Sampling and Analysis Plan is hereby incorporated into the Compliance Plan by reference as if set out fully herein. The Permittee or the Executive Director shall propose modifications as necessary to the Sampling and Analysis Plan. Any and all revisions to the Sampling and Analysis Plan shall become conditional of this Compliance Plan at the beginning of the next full quarter after approval by the Executive Director.
2. An up-to-date approved Sampling and Analysis Plan shall be maintained at the facility and made available for inspection upon request.
3. The collected samples shall be analyzed in accordance with the U.S. EPA Publication SW-846, Test Methods for Evaluating Solid Waste.

C. Sampling and Analysis Frequencies and Parameters

1. Frequencies of sampling shall be by month, quarter, semiannual or year, depending on the sampling objective. These periods of time are defined below:
 - a. "Month" shall be a calendar month.

Point of Compliance and between the Point of Compliance and the downgradient facility property line and within the corrective action areas.

B. The Corrective Action Program shall consist of the system components of Section II, to be operated according to the plans and specifications as approved in Section III A and the specifications of this amended Compliance Plan.

1. The recovery system shall be operated, maintained and inspected in accordance with the Operation and Maintenance Plan that is to be submitted in accordance with Section VIII-D.
- 1.2. The Recovery Well shall be pumped so as to intercept and contain the area of contamination in the Uppermost Water-bearing Zone unless the recovery system is under repair or maintenance is performed in accordance with the Operation and Maintenance Plan that is submitted in accordance with Section VIII-D. The natural attenuation monitoring will be conducted in conjunction with the Groundwater Monitoring Program in Section VI.
3. The flow rate at the Recovery Well shall be manually set and recorded once a week. This weekly flow rate data shall be used to calculate a quarterly total flow which shall be reported in accordance with Section VII-B-2-e of this Compliance Plan.
4. All recovery system components shall be maintained in a functional and leak-free condition at all times. All above ground collection pipes from the Recovery Well to the collection and treatment system shall be inspected weekly. In addition, the area surrounding the well shall be inspected weekly for wet spots indicating leaks in buried sections of the collection system. If a leak is detected in any part of the collection system, it must be reported within 24 hours to the Texas Natural Resource Conservation Commission Region 12 Office and action must be taken immediately to stop the leak and resolve the problem.
- 2.5. The Permittee shall notify the Executive Director of any scheduled or nonscheduled periods of recovery system shut-down, recovery system malfunction, or treatment system shutdown for maintenance of one or more weeks duration malfunctioning monitoring well in the system. The Permittee shall notify the Executive Director no later than seven (7) days following the date the Permittee determines that a damaged well will require replacement or repairs the shutdown will last for one or more weeks. Any shutdown less than one week shall be recorded in the facility's inspection log.
- 3.6. Recovery Wells Natural Attenuation monitoring wells for the Uppermost Water-bearing Zone shall at a minimum consist of the wells listed in Table III. The Permittee or the Executive Director shall recommend modifications to the configuration of the recovery system at any time that it is determined that the contamination present in the Uppermost Water-bearing Zone is not being effectively contained and recovered and the an evaluation of corrective action enhancements if plume configuration has not stabilized and the performance standards of Section IV A are not being met.

F. Ground-Water Protection Standard Achieved

1. Achievement of the Ground-Water Protection Standard for each well of Table III is defined by the results of the data evaluation of Section VI.D wherein the concentrations of Hazardous Constituents have been reduced by the Corrective Action Program (Section V) to concentrations that do not exhibit a statistically significant increase when directly compared to the Concentration Limits of Table I Column B.
2. If the Ground-Water Protection Standard is achieved in all wells (Point of Compliance, Recovery, and Corrective Action Observation) in the corrective action area during the Compliance Period, the Permittee may apply to amend this Compliance Plan to modify the Corrective Action Program to the extent necessary to demonstrate by means of a ground-water monitoring program that the Ground-Water Protection Standard will not be exceeded during the remainder of the Compliance Period.
3. If the Ground-Water Protection Standard is not achieved in all wells in the corrective action area during the Compliance Period, the Corrective Action Program must continue until the Ground-Water Protection Standard has not been exceeded in all wells of Table III for that corrective action area for three (3) consecutive years.
4. If the Ground-Water Protection Standard established in this Compliance Plan has not been exceeded for three (3) consecutive years at the end of the Compliance Period, then the Permittee must, within ninety (90) days, submit an application for a permit modification to establish a Compliance Monitoring Program or a Detection Monitoring Program for the aquifer(s) during the remaining portion of the 30-year detection monitoring period. Until the approval of permit modification, the Permittee shall continue ground-water monitoring under the Compliance Plan provisions.

V. CORRECTIVE ACTION PROGRAM

The Corrective Action Program shall consist of recovery of contaminated ground water remediate, recover, and/or contain contaminated groundwater from the Uppermost Aquifer and any interconnected lower aquifers. The Corrective Action Program shall consist of the system components of Section II, to be operated according to the specifications of this Compliance Plan including but not limited to natural attenuation. The Permittee shall conduct the Corrective Action Program until the performance standards of Section V.A are met. The Permittee shall initiate the Corrective Action Program immediately upon issuance of this Compliance Plan, except where other specific response deadlines may apply.

A. Performance Standard

The Permittee shall conduct the Corrective Action Program to remedy the quality of ground water by removing or treating in place by natural attenuation or other approved method the hazardous constituents so as to achieve the concentration limits specified in the Ground-Water Protection Standard of Section IV of this amended Compliance Plan at the

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- b. "Quarter" shall be based on divisions of the calendar year (i.e., January through March, April through June, July through September, October through December). The quarter in which the sampling is required to begin shall hereafter be designated as the "first quarter", and the following quarters shall be designated as "second", "third", and "fourth quarter", respectively.
 - c. "Semi-annual" shall be two consecutive quarters beginning with the first complete quarter, and
 - d. "Year" shall be four consecutive quarters, beginning with the first quarter. Years shall be designated consecutively, beginning with the "first year", "second year", etc.
2. Sampling of wells shall commence during the first complete quarter after issuance of this Compliance Plan. Samples shall be collected during the first and third quarters of each year. Data evaluations shall be completed within sixty (60) days of the sampling date unless QA/QC procedures show that data is unacceptable and reanalyses or resampling must be performed. In such case, the Executive Director will be notified as soon as it becomes apparent that the 60-day time limit will not be met.
3. Corrective Action Monitoring
- In the first and subsequent years of ground-water monitoring, the monitoring wells of Table III shall be sampled according to the following schedules:
- a. Each Background Well, Point of Compliance Well, and Corrective Action Observation Well and Recovery Well of Table III shall be sampled and analyzed semi-annually for the constituents of Table II.
 - b. Each Corrective Action Observation Well of Table III shall continue to be sampled according to Section VI.C until analytical results satisfy the corrective action objectives of Section IV.F.1 for two consecutive sampling events. This Corrective Action Observation Well shall be sampled one time for the constituents of Table I during the next sampling event. If additional Table I constituents are found, the permittee shall submit an application for a compliance plan amendment to add these constituents to Table II and return to monitoring program under VI.C.3.a. If all constituents of Table I are below the Ground-Water Protection Standards, then it shall be sampled in accordance with VI.C.4 until the objectives of Section IV.F.1 have been achieved in all remaining actively monitored Table III wells. At such time, all Corrective Action Observation Wells which have been dropped from monitoring of Table I constituents will again be monitored for constituents of Table I to verify that they continue to meet the requirements of Section IV.F.1. If the Ground-Water Protection Standards are achieved in accordance with Section IV.F.1, then the Permittee may apply to modify the Compliance Plan according to Section IV.F.2.

- c. All the Point of Compliance Wells of Table III shall be sampled according to Section VI.C.3.a. If all the Point of Compliance Wells do not exceed the concentration limits for constituents of Table II for two consecutive sampling events, the Permittee shall demonstrate achievement of the Groundwater Protection Standard in accordance with Section IV.F.
- d. Wells will be monitored for natural attenuation parameters listed in Table V semiannually for one year and annually thereafter until the Groundwater Protection Standard has been achieved.

4. Field Determination Requirements - All Compliance Plan Monitor Wells

- a. Water level measurements relative to Mean Sea Level shall be measured to within 0.01 ft and shall be made on a quarterly semi-annual basis effective immediately with issuance of this Compliance Plan. Measurements shall be taken in all monitor wells specified in Table III of this Compliance Plan.
- b. Field determinations of pH, Temperature, Specific Conductivity, Dissolved Oxygen, Redox Potential, and Turbidity in nephelometric turbidity units (NTUs) shall be performed on all Background, Point of Compliance, Recovery, and Corrective Action Observation Wells of Table III during each sampling event.
- c. Field observations including descriptions of appearance ("clean", "turbid", "brownish", etc.) shall be recorded for all Background, Point of Compliance, Recovery, and Corrective Action Observation Wells of Table III each time the wells are sampled.
- d. The total depth of each well of Table III, which is not equipped with a dedicated pump, shall be measured at each sampling event. Total depth of each well of Table III, which is equipped with a dedicated pump, shall be measured at least once every two years and when: 1) pumps are removed for maintenance; or 2) the efficiency of the dedicated pump decreases by 25% from the pump rating when it was initially installed. The measured total depth shall be compared to the total depth recorded on the well construction log. Should an analysis of the measured and the recorded total depth reveal that the well is silting in, the Permittee shall perform such actions necessary (i.e., redevelopment, replace the well etc.) to enable the well to function properly.
- e. All monitoring wells specified in Table III of this Compliance Plan shall be inspected on a quarterly semi-annual basis in accordance with the operation, maintenance and inspection procedures to be submitted under Section VIII. Repairs or a proposal for replacement for any affected well shall be performed within ninety (90) days of the routine quarterly inspection which identified the problem well. Notification for proposed replacement of a well listed in Table III shall be in accordance with Section III.D.

D. Data Evaluation Procedures

Data evaluation in accordance with this section shall be performed within sixty (60) days of sample collection for all wells listed in Table III for the duration of the Corrective Action

COMPLIANCE PLAN NO. CP-50236

Safety-Kleen Corporation

Missouri City Service Center

Revised April 1998

CONTINUATION SHEET 11 of 17

Monitoring programs: When evaluating the monitoring results pursuant to Section VI for any constituent of Table I or Table II (Column A) of each monitor well, the Permittee shall either:

1. Directly compare the value of each constituent to the respective Concentration Limit of Table I or Table II (Column B) and determine if it is less than, equal to, or greater than the Concentration Limit. If the values for all the constituents are less than or equal to the respective Concentration Limits, that well shall be considered compliant with the Ground-Water Protection Standard for the sampling event. If one or more constituent value is greater than the respective Concentration Limit, that well shall be considered non-compliant with the Ground-Water Protection Standard for the sampling event.
2. Compare the value of each constituent to its respective concentration limit of Table I or Table II using one of the following procedures:
 - a. The Confidence Interval Procedure Based on a normal, log-normal, or nonparametric distribution, as presented in Section 6.2.1. of Statistical Analysis of Ground Water Monitoring Data at RCRA Facilities Interim Final Guidance, U.S. EPA, April 1989. The 99 percent significant level of the t-distribution will be used in constructing the confidence interval. The confidence interval lower limit for each constituent shall be compared with the corresponding concentration limit in Table I or Table II. To be considered in compliance, the confidence interval lower limit for a well in question must not exceed the tabled concentration limit. A confidence interval lower limit above the tabled concentration limit shall be considered as evidence of statistically significant contamination, or,
 - b. An alternative statistical method proposed by the Permittee and approved by the TNRCC. Any proposed alternative method must be appropriate with respect to distribution assumptions and must provide reasonable control of both false positive and false negative error rates.

VII. RESPONSE AND REPORTING

A. Corrective Action Monitoring

1. If the Permittee determines that the Corrective Action Program required by this Compliance Plan no longer satisfies the requirements of 30 TAC §335.166 or §335.167, he must, within ninety (90) days of making this determination, submit an application for a Compliance Plan amendment or modification to make any appropriate changes to the Corrective Action Program which will satisfy the regulations.

2. If the Executive Director determines that the Corrective Action Program required by this Compliance Plan no longer satisfies the requirements of 30 TAC §335.166 or §335.167, the Permittee must, within ninety (90) days of the date of the Executive Director's notification, submit an application for a Compliance Plan amendment or modification to make any appropriate changes to the Corrective Action Program which will satisfy the regulations.

B. Reporting Requirements

1. Water table maps shall be prepared from the ground-water data collected pursuant to Section VI.C.4 and shall be evaluated by the Permittee with regard to the following parameters:
 - a. Development and maintenance of a cone of depression during operation of the system;
 - ab. Directions of ground-water flow;
 - c. Effectiveness of hydrodynamic control of the contaminated zone during operation;
 - bd. Estimation of the rate and direction of ground-water contamination migration.
2. The Permittee shall submit a report to each recipient listed in Section X.C by January 21 and July 21 of each year and shall include the following information determined since the previously submitted report:
 - a. A narrative summary of the evaluations made in accordance with Sections V, VI, and VII of this Compliance Plan for the preceding six (6) month period. These periods shall be January 1 through June 30 and July 1 through December 31.
 - b. The results of the chemical analyses, submitted in a tabulated format in a form acceptable to the Executive Director which clearly indicates each parameter that exceeds the Ground Water Protection Standard. Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the Executive Director.
 - c. Tabulation of all water level elevations (mean sea level), depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous semiannual report.
 - d. Potentiometric surface maps showing the elevation of the water table at the time of sampling, delineation of the radius of influence of the recovery system which specifies the minimum and maximum gradient within the hydrologically influenced area, and the direction of ground-water flow gradients outside the radius of influence of the recovery system.

- e. Monthly tabulations of quantities of recovered ground water and graphs of weekly recorded flow rates versus time for the Recovery Wells during each quarter;
 - e.f. Tabulation of all data evaluation results pursuant to Section VI.D and status of each well of Table III with regard to compliance with the Corrective Action objectives and compliance with the Ground Water Protection Standards;
 - f.g. Maps of the contaminated area depicting concentrations of total volatile organic compounds as isopleth contours;
 - g.h. An updated schedule summary as required by Section XI;
 - h.i. Summary of any changes made to the corrective action program and a summary of well inspections, repairs, and any operational difficulties;
 - i.j. A table of all modifications and amendments made to this Compliance Plan with their corresponding approval dates by the Executive Director or the Commission and a brief description of each action;
 - j.k. Recommendation for any changes; and
 - k.l. Any other items requested by the Executive Director.
- C. The Permittee shall enter all monitoring, testing, analytical, and inspection data obtained or prepared pursuant to the requirements of this Compliance Plan, including graphs and drawings, in the operating record at the facility. The operating record at the facility shall be made available for review by the staff of the Texas Natural Resource Conservation Commission upon request.

VIII. COMPLIANCE SCHEDULE

- A. Within sixty (60) days of issuance of this amended Compliance Plan, the Permittee shall submit to the Executive Director a schedule summarizing all activities required by the Compliance Plan. The schedule shall list the activity or report, the amended Compliance Plan Section which requires the activity or report and the calendar date the activity or report is to be completed or submitted (if this date can be determined). The schedule shall list the starting dates of all routine activities. The Permittee shall include the updated schedule in the semiannual report.
- B. Within days of issuance of this Compliance Plan, the Permittee shall complete installation of the additional two (2) Point of Compliance wells in accordance with the design specifications presented in the Compliance Plan application dated January 20, 1992 and the Attachment B of this Compliance Plan. Certification shall be in accordance with Attachment B of this Compliance plan.

- G. Within (90) days of issuance of this Compliance Plan, the Permittee shall complete installation of the ground water recovery system (Recovery Well MW-4 and appurtenances) in accordance with the design specifications presented in the Compliance Plan application dated January 20, 1992 and the Attachment B of this Compliance Plan.
- D. Within ninety (90) days of issuance of this Compliance Plan, the Permittee shall submit an Operation and Maintenance Plan for the ground water monitoring and recovery system for Unit AA to the Executive Director for review and approval.

IX. FINANCIAL ASSURANCE

The Permittee shall provide financial assurance for operation of the groundwater Corrective Action Program in accordance with this Compliance Plan in a form acceptable to the Executive Director in an initial amount not less than \$532,965.00. The financial assurance shall be secured, maintained, and adjusted in compliance with TNRCC regulations on hazardous waste financial requirements (30 TAC §335.152 and 40 CFR Part 264 Subpart H and 40 CFR Part 264.101).

X. GENERAL PROVISIONS

A. Deed Recordation Requirements

For waste and contaminated soil (including saturated soils) approved to remain in place above background concentration levels, the Permittee shall record an instrument in the deed records for the facility to specifically identify the areas of contamination exceeding background values. The notice shall state:

"This land has been used to manage industrial solid waste. The waste left in place and contaminated soil on this property contains hazardous constituents. No water well used for industrial or drinking purposes may be installed without petitioning and receiving the approval of the Executive Director of the Texas Natural Resource Conservation Commission."

B. Notification Requirements

The Permittee shall notify the TNRCC Region 12 - Houston at least ten (10) days prior to any well installation or sampling activity in order to afford District personnel the opportunity to observe these events and collect samples. This notification requirement will not apply to routine ground-water sampling events specified in this Compliance Plan.

C. Distribution of Copies

The Permittee shall submit copies of all schedules, plans, and reports required by this Compliance Plan according to the following distribution list:

1. One Copy to the Permits Section, Industrial and Hazardous Waste Division, Texas Natural Resource Conservation Commission in Austin, Texas;

2. One copy to the Executive Director, Texas Natural Resource Conservation Commission in Austin, Texas.
3. One copy to the Texas Natural Resource Conservation Commission Region 12 Office in Houston, Texas.
4. One copy to the Director, Hazardous Waste Management Division, U.S. Environmental Protection Agency Region VI Office in Dallas, Texas.

D. Compliance Plan Modification

If the Permittee determines that the Compliance Monitoring Program, Corrective Action Program, Compliance Schedule, or Financial Assurance required by this Compliance Plan no longer satisfies the requirements of 30 TAC §335.166, he must, within ninety (90) days of making this determination, submit an application for a modification to make any appropriate changes to the Compliance Plan which will satisfy the regulations. Any modification of the Compliance Plan shall be accomplished in accordance with provisions of 40 CFR 270 Subpart D/30 TAC 305 Subchapter D.

XI. FORCE MAJEURE

The Permittee's compliance with one or more of the provisions of this Compliance Plan may be excused only to the extent and for the duration that noncompliance is caused by a "Force Majeure" event. For purposes of this Compliance Plan, "Force Majeure" is defined as an event that is caused by an Act of God, labor strike, or work stoppage, or other circumstance beyond the Permittee's control that could not have been prevented by due diligence, and that makes substantial compliance with the applicable provision or provisions of this Compliance Plan impossible.

The occurrence of a force majeure event that justifies the missing of one deadline shall not automatically justify the missing of later deadlines unless there is a cumulative effect due to such an event. The Permittee shall keep a record of any delaying events.

If the Permittee anticipates or experiences an inability to comply with any of the provisions of this Compliance Plan due to a "Force Majeure" event, the Permittee shall immediately notify the Executive Director (TNRCC) in writing of the nature, cause, and anticipated length of the delay and all steps which the Permittee has taken and will take, with a schedule for their implementation, to avoid or minimize the delay. In the event that performance of any of the activities required by this Compliance Plan are affected by a "Force Majeure" event, then the Permittee shall propose a plan for the Executive Director's (TNRCC) approval, for achieving the objectives of the Compliance Plan by alternative means in the most timely manner.

COMPLIANCE PLAN NO. CP-50236
 Safety-Kleen Corporation
 Missouri City Service Center

Revised April 1998
 CONTINUATION SHEET 16 of 17

TABLE 1

Hazardous and Solid Waste Constituents and
 Concentration Limits for Ground-Water Protection Standard

COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (ug/L)
Benzene	N.D. (5)
Chlorobenzene	N.D. (5)
1,1-Dichloroethane	N.D. (5)
1,2-Dichloroethene (total)	N.D. (5)
Ethylbenzene	N.D. (5)
Methyl Ethyl Ketone (MEK)	N.D. (5)
Methyl Isobutyl Ketone (MIBK)	N.D. (100)
Tetrachloroethene	N.D. (50)
Trichloroethene	N.D. (5)
Toluene	N.D. (5)
Xylene (total)	N.D. (5)
Vinyl Chloride	N.D. (5)
Cadmium	N.D. (2)
Lead	10 + 50 +

N.D. Non-detectable at Practical Quantitation Limit (PQL) as determined by the analytical methods of the United States Environmental Protection Agency publication SW-846 Test Methods for Evaluating Solid Waste, Third Edition, November 1986 (USEPA SW-846) and as listed in the July 8, 1987 edition of the Federal Register and later editions. PQL is indicated in parentheses. PQLs are the lowest concentrations of analyses in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions.

+ Maximum Concentration of Constituents (MCC) for Ground-Water Protection as specified in Table I of 40 CFR Part 264.94

TABLE II

Indicator Parameters and Concentration Limits for
 Ground-Water Protection Standard

COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (ug/L)
Tetrachloroethene	N.D. (5)
Vinyl Chloride	N.D. (2)
Chlorobenzene	N.D. (5)
Xylene (total)	N.D. (5)

TABLE III

Designation of Wells by Function

POINT OF COMPLIANCE WELLS

MW-4
MW-8 (proposed)
MW-9 (proposed)

BACKGROUND WELL

MW-6

CORRECTIVE ACTION OBSERVATION WELLS

MW-1
MW-2
MW-3

RECOVERY WELL

MW-4

TABLE IV

COMPLIANCE PERIOD

Year in Operation 1975
Year Closed 1987

Compliance Period 12 Years

TABLE V

Monitoring Program for Demonstration of Natural Attenuation

COLUMN A
FIELD MEASUREMENTS

Dissolved Oxygen
Redox Potential
pH
Temperature
Conductivity

COLUMN B
LABORATORY ANALYSIS

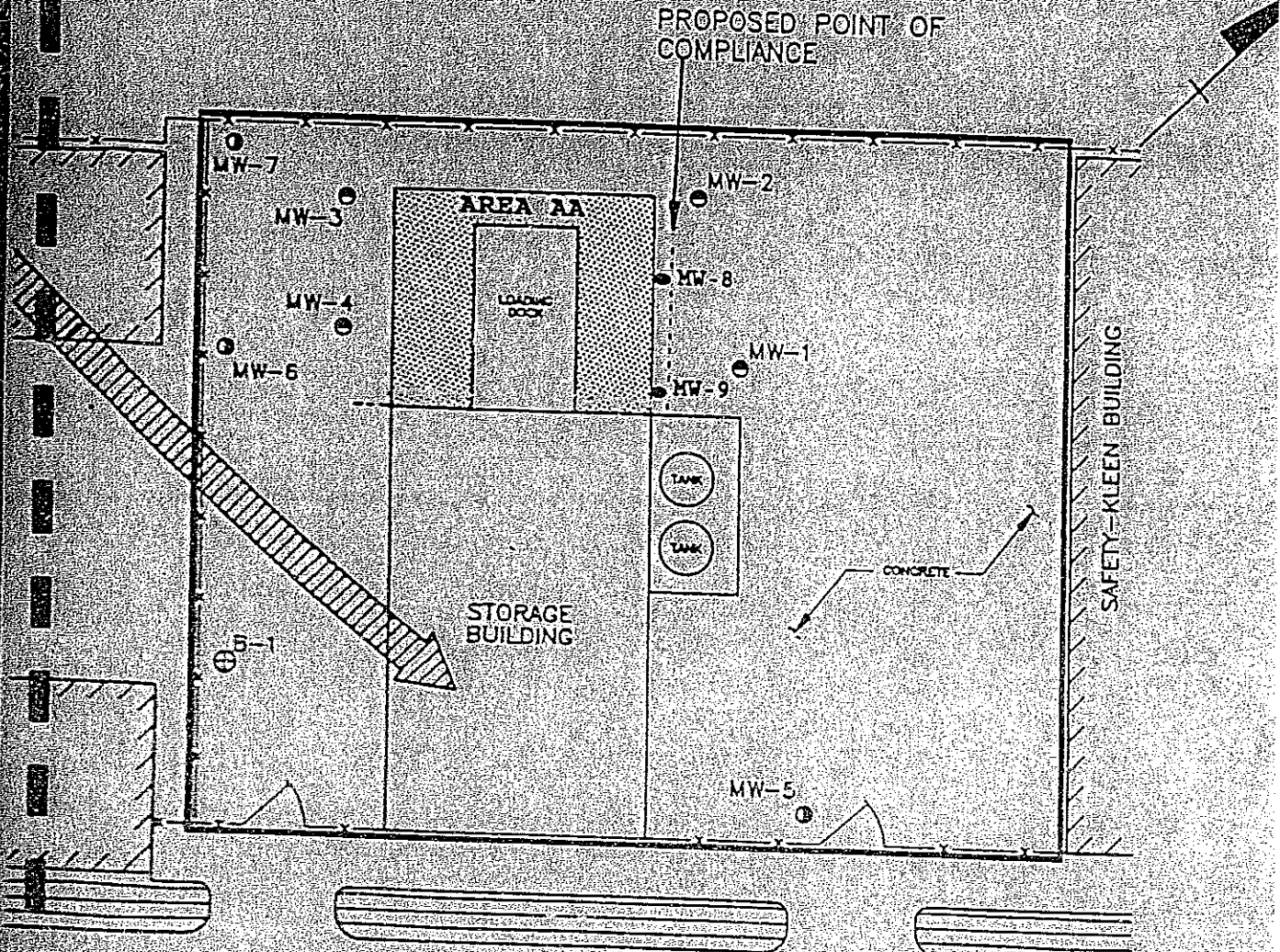
Nitrate
Soluble Methane, Ethane, and Ethene
Alkalinity
Iron

Column A to be performed semiannually and Column B to be performed annually.

TNRCC-0050 (Rev. 10-09-93)

COMPLIANCE PLAN NO. CP 50236
 Safety-Kleen Corporation
 Missouri City Service Center

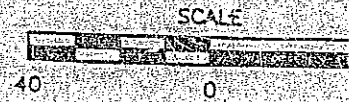
ATTACHMENT A



6 PROPOSED ADDITIONAL
 POINT OF COMPLIANCE WELLS

B-1 BORING LOCATION
 AND DESIGNATION

APPARENT DIRECTION OF
 GROUND WATER FLOW



GROUND WATER COMPLIANCE
 UNIT BOUNDARIES MAP
 MISSOURI CITY, TEXAS

PREPARED FOR
 SAFETY-KLEEN, INC.
 ELGIN, ILLINOIS
 Canonic Environmental

DATE: 1-9-92
 SCALE: AS SHOWN

FIGURE 2

Revised April 1998

APPENDIX F
REVISED SAMPLING AND ANALYSIS PLAN
GROUNDWATER SAMPLING PROCEDURES

The following procedures will be used to obtain groundwater samples:

- a. Upon arrival at a monitoring well, note any defects in the well that might require repair. Unlock the well and remove the cap.
- b. Using the water level measuring instrument, measure the water level and record the value to the closest 0.01 foot. Determine the total depth of the well and record to the nearest 0.01 foot. Withdraw and clean the level indicator, noting any foreign matter that might be clinging to the probe.
- c. Calculate the amount of water in the four-inch monitoring well casings using the following formula:
$$\text{Well depth} - \text{Depth to water} = \text{Water column length (feet)}$$
$$\text{Well column length} \times 0.67 = \text{Casing volume (gallons)}$$
- d. Using a decontaminated PVC bailer or submersible pump, purge the well until a minimum of three casing volumes are removed or until the well is dry.
- e. After purging the well, allow the well to recover to at least 80 percent of its static water level.
- f. Collect a water sample using a disposable Teflon™ bailer.
- g. Transfer water samples directly from the bailer to the bottles. This will help minimize cross-contamination of samples. Take care to observe any sample preservation and headspace requirements. Measure and record pH, conductivity and temperature of the groundwater sample, as well as any other required field measurements.
- h. Place the sample bottles in a shipping container and add ice.
- i. Complete chain-of-custody forms, field log book, and field sampling form as samples are collected.
- j. Replace the cap and relock the well.
- k. Return samples to the laboratory as soon as possible. If shipping is necessary, ship by overnight express service.

ATTACHMENT 8
Notice of Registration

ATTACHMENT 9

Compliance Plan

Notice of Registration

Date: 04/16/03

Industrial and Hazardous Waste

71144 Safety-Kleen Systems Inc

Unit Number	Unit Type	Unit Status	Date of Classes of Waste	Unit Status	Unit # Managed in Unit	Unit # Permit on	Regulatory Status	Deed Recording Needed/Date
-------------	-----------	-------------	--------------------------	-------------	------------------------	------------------	-------------------	----------------------------

** 'Active' & 'Closure Pending' Units **

Description from Company: Miscellaneous Containers for plant refuse

Capacity: 10.0000 Capacity Unit of Measure: Y

System Types: 137 Other disposal

Biennial System Regulatory Status: POTW and some units RCRA regulated

Wastes Currently Managed in Unit: 03009992 Plant Refu

As of 02/21/2003, the next unassigned sequence number for UNITS is 012.

** 'Inactive', 'Closed' & 'Post Closure Care' Units **

003 Contain Store Area Inactive 09/04/02 H/ NA NA 003 RCRA Permitted NA /

Description from Company: Drum storage area. Transfer wastes

Capacity: 9648.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Previously Managed in Unit: 1001319H 52954041 910100 991002 991003 991004 991005

007 Tank (Surface) Inactive 09/04/02 / NA NA 007 RCRA Permitted NA /

Description from Company: Waste antifreeze tank Inactive 11/7/2001

Capacity: 12000.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Previously Managed in Unit: 910100 990001

008 Tank (Surface) Inactive H/ NA NA NA NA /

Description from Company: Wet dumpster

Capacity: 750.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Previously Managed in Unit: 0501203H 0527695H

009 Tank (Surface) Inactive H/ NA NA NA NA /

Description from Company: Wet dumpster

Capacity: 750.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Previously Managed in Unit: 0501203H 0527695H

010 Landfill Post Close Care 08/28/92 / NA NA 008 RCRA Permitted NA /

Description from Company: Inactive tank pit area closed as a landfill

System Types:

Biennial System Regulatory Status: Regulatory status unknown

Notice of Registration

Date: 04/16/03

Industrial and Hazardous Waste

71144 Safety-Kleen Systems Inc

**** UNITS AT THIS SITE MANAGING WASTE ****

Unit Number	Unit Type	Unit Status	Date of Classes of Waste Status	Classes of Waste Managed in Unit	Unit Permit	Unit # on Status	Regulatory Status	Deed Recording Needed/Date
-------------	-----------	-------------	---------------------------------	----------------------------------	-------------	------------------	-------------------	----------------------------

** 'Active' & 'Closure Pending' Units **

001	Tank (Surface)	Active	05/01/75	H/ NA	NA	001	RCRA Permitted	NA /
-----	----------------	--------	----------	-------	----	-----	----------------	------

Capacity: 12000.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Currently Managed in Unit: 0501203H Spent Part 0527695H Parts wash

Wastes Previously Managed in Unit: 910100 990001

002	Tank (Surface)	Active	05/01/75	H/ NA	NA	002	RCRA Permitted	NA /
-----	----------------	--------	----------	-------	----	-----	----------------	------

Description from Company: 4 wet dumpsters

Capacity: 1500.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Currently Managed in Unit: 0501203H Spent Part 0527695H Parts wash

Wastes Previously Managed in Unit: 910100 990001

004	Contain Store Area	Active		H/ NA	NA	004	RCRA Permitted	NA /
-----	--------------------	--------	--	-------	----	-----	----------------	------

Description from Company: Transfer wastes

Capacity: 16416.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Currently Managed in Unit: 0527695H Parts wash

Wastes Previously Managed in Unit: 1001319H 172870 900250 910100 991002 991003 991004 991005

005	Contain Store Area	Active		H/ NA	NA	005	RCRA Permitted	NA /
-----	--------------------	--------	--	-------	----	-----	----------------	------

Description from Company: Transfer wastes 004 & 005

Capacity: 15408.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Currently Managed in Unit: 0527695H Parts wash 1736319H Solid Debr 1827409H Liquid soa

Wastes Previously Managed in Unit: 1001319H 52954041 910100 991002 991003 991004 991005

006	Contain Store Area	Active		H/ NA	NA	006	RCRA Permitted	NA /
-----	--------------------	--------	--	-------	----	-----	----------------	------

Description from Company: AC center transfer wastes

Capacity: 8208.0000 Capacity Unit of Measure: G

System Types: 141 Storage

Biennial System Regulatory Status: Regulatory status unknown

Wastes Currently Managed in Unit: 0527695H Parts wash 1736319H Solid Debr 1827409H Liquid soa

Wastes Previously Managed in Unit: 1001319H 52954041 910100 991002 991003 991004 991005

011	Misc Store Container	Active	03/31/98	2/ NA	NA	NA	Other	NA /
-----	----------------------	--------	----------	-------	----	----	-------	------

Notice of Registration
Industrial and Hazardous Waste

Date: 04/16/03

71144 Safety-Kleen Systems Inc

Texas Waste Status Date of Managed Radio- TNRCC Audit

Waste Class Status Onsite/ active Complete

Code Offsite

** No Longer Generated Wastes **

908320 H Inactive 12/29/95 NA No No

Description from Generator: ANTIFREEZE

Form Code:

EPA Hazardous Waste Numbers: D031

Current Management Units: None

* Origin Codes:

991002 H Inactive 12/29/95 NA No No

Description from Generator: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHY-

Form Code: 609 Other organic sludges

EPA Hazardous Waste Numbers: F002

Current Management Units: None

* Origin Codes: 4 Received from offsite

* Source Codes: A89 Other pollution control or waste treatment

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

991003 H Inactive 12/29/95 NA No No

Description from Generator: SPENT NON-HALOGENATED SOLVENTS:XYLENE,ACETONE,ETHYL ACETATE,

Form Code: 211 Paint thinner or petroleum distillates

EPA Hazardous Waste Numbers: F003 F005

Current Management Units: None

* Origin Codes: 4 Received from offsite

* Source Codes: A21 Painting

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

991004 H Inactive 12/29/95 NA No No

Description from Generator: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: CRESOLS AND

Form Code: 204 Halogenated/non-halogenated solvent mixture

EPA Hazardous Waste Numbers: D006 D007 D008 D022 F002 F004

Current Management Units: None

* Origin Codes: 4 Received from offsite

* Source Codes: A19 Other cleaning and degreasing

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

991005 H Inactive 12/29/95 NA No No

Description from Generator: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE,

Form Code:

EPA Hazardous Waste Numbers: F005

Current Management Units: None

* Origin Codes:

* The first value is considered the primary value (e.g. primary origin code).

As of 02/21/2003, the next unassigned sequence number for WASTES is 5298.

Notice of Registration

Date: 04/16/03

Industrial and Hazardous Waste

71144 Safety-Kleen Systems Inc

Texas Waste Status Date of Managed Radio- TNRCC Audit

Waste Class Status Onsite/ active Complete

Code Offsite

** No Longer Generated Wastes **

1001319H H Inactive 06/21/00 NA No No

Description from Generator: spent fluorescent light bulbs

Form Code: 319 Other waste inorganic solids

EPA Hazardous Waste Numbers: D009

Current Management Units: None

* Origin Codes: 1 Onsite-process/service

* Source Codes: A57 Discarding off-spec material

* Measurement Points: 1 Before mixing

Company's Internal Code(s): na

52954041 I Inactive 11/19/01 NA No No

Description from Generator: Spent Carbon

Form Code: 404 Spent carbon

Current Management Units: None

* Origin Codes: 3 From non-haz waste mgmt

110450 I Inactive 12/29/95 NA No No

Description from Generator: OIL, WASTE

Form Code:

Current Management Units: None

* Origin Codes:

172870 I Inactive 12/29/95 NA No No

Description from Generator: OIL FILTERS

Form Code:

Current Management Units: None

* Origin Codes:

279760 2 Inactive 03/31/98 NA No

Description from Generator: PLANT REFUSE, GENERAL MISC.

Form Code:

Current Management Units: None

* Origin Codes:

900250 H Inactive 12/29/95 NA No No

Description from Generator: METAL CLEANING WASTES

Form Code: 203 Non-halogenated solvent

EPA Hazardous Waste Numbers: D006 D007 D008 D018 D021 D027 D039 D040

Current Management Units: None

* Origin Codes: 4 Received from offsite

* Source Codes: A19 Other cleaning and degreasing

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

Notice of Registration
Industrial and Hazardous Waste

Date: 04/16/03

71144 Safety-Kleen Systems Inc

Texas Waste Status Date of Managed Radio- TNRCC Audit

Waste Class Status Onsite/ active Complete

Code Offsite

***** Active Wastes *****

1827409H H Active 08/28/92 On/Off No No

Description from Generator: Liquid soaked debris/ facility maintenance/ 1 Sept. 93

Form Code: 409 Other non-halogenated organic solids

EPA Hazardous Waste Numbers: D001 D006 D007 D008 D011 D018 D022 D027 D028 D035 D039 D040 F001 F002 F003 F005

Current Management Units: Contain Store Area 003 005 006

* Origin Codes: 1 Onsite-process/service

* Source Codes: A91 Clothing and personal protective equipment A53 Cleanup of spill residues
A92 Routine cleanup waste (e.g., floor sweepings)

* Measurement Points: 4 After mix(haz & nonhaz) 2 After mix (haz. only) 3 After mix (non-haz)

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho 42112 Motor Vehicle Supplies and New Parts W
42183 Industrial Machinery and Equipment Who 42272 Petroleum and Petroleum Products Whole

52962191 1 Active 11/04/02 Off No

Description from Generator: Oil that got contaminated w/ a solvent. Date of generation: 10-18-2002.

Form Code: 219 Other organic liquids

Current Management Units: None

* Origin Codes: 4 Received from offsite

5297206H H Active 02/21/03 Off No No

Description from Generator: Oil contaminated with acid (One time generation)

Form Code: 206 Waste oil

EPA Hazardous Waste Numbers: D002

Current Management Units: None

* Origin Codes: 2 Spill clean-up

* Source Codes: A37 Spent process liquids removal

* NAICS Code: 532299 All Other Consumer Goods Rental

910100 H Active On/Off No No

Description from Generator: SOLVENTS, SPENT

Form Code: 203 Non-halogenated solvent

EPA Hazardous Waste Numbers: D001 D006 D007 D008 D039

Current Management Units: Tank (Surface) 008 009

* Origin Codes: 5 Onsite haz waste mgmt

* Source Codes: A19 Other cleaning and degreasing

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

990001 H Active On/Off No No

Description from Generator: D001 CHARACTERISTIC OF IGNITABILITY

Form Code: 203 Non-halogenated solvent

EPA Hazardous Waste Numbers: D001 D018 D039

Current Management Units: Tank (Surface) 008 009

* Origin Codes: 5 Onsite haz waste mgmt

* Source Codes: A19 Other cleaning and degreasing

* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

* The first value is considered the primary value (e.g. primary origin code).

As of 02/21/2003, the next unassigned sequence number for WASTES is 5298.

Refer to 40 CFR Part 261 for Descriptions of EPA Hazardous Waste Numbers.

71144 Safety-Kleen Systems Inc

**** WASTE INFORMATION ****

Texas Waste Status Date of Managed Radio- TNRCC Audit
Waste Class Status Onsite/ active Complete
Code Offsite

***** Active Wastes *****

03009992 2 Active 12/29/95 On/Off No No
Description from Generator: Plant Refuse, General Misc.
Refers to waste code (6): 279760
Form Code: 999 Plant Refuse
Current Management Units: Misc Store Container 011
* Origin Codes: 1 Onsite-process/service

0501203H H Active 12/29/95 On/Off No No
Description from Generator: Spent Parts Washer Solvent
Refers to waste code (6): 990001
Form Code: 203 Non-halogenated solvent
EPA Hazardous Waste Numbers: D001 D006 D008 D018 D035 D039 D040
Current Management Units: Tank (Surface) 001 002
* Origin Codes: 5 Onsite haz waste mgmt
* System Types: 024 Other solvent recovery
* Source Codes: A19 Other cleaning and degreasing
* Measurement Points: 1 Before mixing
* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

0527695H H Active 12/29/95 On/Off No No
Description from Generator: Parts washer solvent sludge/dumpster mud parts washer solvent tank bottoms
Refers to waste code (6): 910100
Form Code: 695 Petro contam sldg not still bottoms & oily sludges
EPA Hazardous Waste Numbers: D001 D006 D008 D018 D039 D040
Current Management Units: Contain Store Area 003 004 005 006
Tank (Surface) 001 002
* Origin Codes: 5 Onsite haz waste mgmt 1 Onsite-process/service 2 Spill clean-up
* System Types: 024 Other solvent recovery
* Source Codes: A19 Other cleaning and degreasing
* Measurement Points: 1 Before mixing
* NAICS Code: 561439 Other Business Service Centers (including Copy Sho

1736319H H Active 08/28/92 On/Off No No
Description from Generator: Solid Debris/Facility maintenance/ 1Sept. 1993
Form Code: 319 Other waste inorganic solids
EPA Hazardous Waste Numbers: D001 D006 D007 D008 D011 D018 D022 D027 D028 D035 D039 D040 F001 F002 F003 F005
Current Management Units: Contain Store Area 003 005 006
* Origin Codes: 1 Onsite-process/service
* Source Codes: A92 Routine cleanup waste (e.g., floor sweepings)
* Measurement Points: 4 After mix(haz & nonhaz) 2 After mix (haz. only) 3 After mix (non-haz)
* NAICS Code: 561439 Other Business Service Centers (including Copy Sho 42112 Motor Vehicle Supplies and New Parts W
42183 Industrial Machinery and Equipment Who 42272 Petroleum and Petroleum Products Whole

Report Name :
Report Program : TRACS_EXEC_DIR/ihw_nor_report
Date : 16-apr-2003 07:36:42
User ID : cburner

Selection Criteria

SW Regis. #s : 71144

Selected All Wastes

Sort Criteria: Registration Number

71144 Safety-Kleen Systems Inc

Solid Waste Registration Number: 71144 EPA Id: TXD010803203

Company Name: Safety-Kleen Systems Inc	Region: 12	Initial Registration Date: 08/01/1986
Site Name: Safety-Kleen Missouri City 6 073 02	County: 79 Fort Bend	Last Amendment Date: 02/21/2003
Site Location: 1580 Industrial Rd, Missouri City, TX	Last Date NOR Computer update: 03/26/2003	
Contact: Saucedo, Ricardo	Title: EHS Manager	Phone: 210-648-7066

Mailing Address: 5243 Sinclair Rd San Antonio, TX 78222-2209	Site Street Address: 1580 Industrial Rd Missouri City, TX 77459
---	--

Registration Status: Active HW Permit #: 50236 Reporting Method: STEERS
Registration Type: Generator Receiver Transporter Transfer Facility
Generator Type: Industrial Hazardous Waste Generation Status: Large Quantity Generator
Transporter Type: For hire
Transport Wst Class: H

Business Description: Leasing of Parts washer.

NAICS Code: 532299 Equipment Rental and Leasing, NEC
Handler Status:

Operator Information	Owner Information
Name: Safety-Kleen Systems Inc	Name: Safety-Kleen Systems Inc
Phone: 281-208-6500	Phone: 972-265-2000
Address: 1580 Industrial Rd	Address: 5400 Legacy Dr
Missouri City, TX, 77459	Cluster II B3 Plano, TX, 75024

As of 02/21/2003 - the next unassigned sequence number for WASTES is 5298 and
the next unassigned sequence number for UNITS is 012.



Texas Commission on
Environmental Quality
Austin, Texas

COMPLIANCE PLAN FOR INDUSTRIAL
SOLID WASTE MANAGEMENT SITE
issued under provisions of TEXAS
HEALTH AND SAFETY CODE ANN.
Chapter 361 and Chapter 26 of the Texas
Water Code

COMPLIANCE PLAN NO. CP-50236
EPA ID. NO. TXD010803203
ISWR NO. 71144

This Compliance Plan is issued in
conjunction with Permit No. HW-50236

This Compliance Plan supersedes and
replaces Compliance Plan No. CP-50236
issued May 8, 2000

First Issuance Date January 14, 1994

Name of Permittee:

Safety-Kleen Systems, Inc.
1580 Industrial Road
Missouri City, Texas 77459

Site Owner:

Safety-Kleen Systems, Inc.
1580 Industrial Road
Missouri City, Texas 77459

Registered Agent for Service:

Prentice-Hall Corporation System, Inc.
400 North Paul Street
Dallas, Texas 75201

Classification of Site:

Hazardous Industrial Solid Waste Post-
Closure Care

The Permittee is required to conduct the Corrective Action and Ground-Water Monitoring Programs in accordance with limitations, requirements, and other conditions set forth herein. All references herein refer to the Compliance Plan unless the Permit is specifically referenced. This Compliance Plan is issued subject to the rules and other Orders of the Commission and laws of the State of Texas. This Compliance Plan does not exempt the Permittee from compliance with the Texas Clean Air Act.

This Compliance Plan remains in effect until amended ~~or~~ revoked by the Commission. This Compliance Plan will be reviewed upon expiration of Permit No. HW-50236 and modified as necessary to assure compliance with 30 TAC Chapters 305, 335 and 350, where applicable.

ISSUED: MAY 05 2003

A handwritten signature in black ink, appearing to read "Margaret Hoffman", written over a horizontal line.

For The Commission

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TABLE IV

Designation of Wells by Function	23
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ATTACHMENTS

- A - Facility site maps
- B - Well Design and Construction specifications

I. GENERAL INFORMATION

- A. The industrial solid waste management facility is located on the north side of Industrial Drive at Gessner, Fort Bend County, Texas. The facility is in the drainage area of Segment No. 1102 of the San Jacinto-Brazos Coastal Basin (North Latitude 29°37'13", West Longitude 95°32'20").

The terms "Uppermost Aquifer" as referenced in this Compliance Plan refers to the uppermost of first water-bearing zone that ranges in elevation from approximately 62 to 54 feet above Mean Sea Level (MSL). The top of the Uppermost Aquifer is approximately 12 feet below ground surface (BGS). Ground water is typically encountered 10 to 12 feet BGS.

- B. The Compliance Plan is specific to the waste management units listed in Table I Part A and depicted in Attachment A as Area AA, for which the ground-water Corrective Action Program applies, pursuant to 30 TAC 335.166, for releases from RCRA-regulated units.

C. RESERVED

D. RESERVED

- E. The Compliance Plan applies to any Solid Waste Management Unit (SWMU) and/or Area of Concern (AOC) discovered subsequent to issuance of this Compliance Plan. The Permittee shall notify the executive director within fifteen (15) days of such discovery. Within sixty (60) days of discovering a SWMU or AOC, the Permittee shall submit an RCRA Facility Assessment (RFA) for that unit which shall be based on U.S. EPA RCRA Facility Assessment Guidance, October 1986, NTIS PB 87-107769. The purpose of an RFA is to identify releases or potential releases of hazardous waste, hazardous constituents or other constituents of concern from SWMUs or AOCs that may require corrective action. If the RFA indicates that there is a release or a potential for release that warrants further investigation, the Permittee shall conduct an investigation and necessary corrective action in accordance with Section VIII of the Compliance Plan.

- F. All dates in this Compliance Plan shall be referenced to the date of issuance of this Compliance Plan by the Texas Commission on Environmental Quality unless otherwise specified. This Compliance Plan was developed based on the Compliance Plan Application dated June 12, 2001.

II. CORRECTIVE ACTION SYSTEMS - Components and Functions Authorized

Corrective Action Systems are required for units specified in Table I, Parts A [C. Reserved]. The Permittee is authorized to install and operate the following Corrective Action System components specified in Sections II.A through II.C., subject to the limitations contained herein.

- A. Ground-water monitoring system shall at a minimum consist of the following categories of wells to monitor ground-water quality.

1. *Background Well(s)* unaffected by the operation of the facility.
2. *Point of Compliance Wells* to demonstrate compliance with the Ground-Water Protection Standard (GWPS).

- B. The Permittee is authorized to utilize existing and/or to install and operate the following additional corrective action system wells to monitor ground-water quality and hydrogeological conditions of the aquifer. The Permittee shall conduct ground water monitoring of wells identified in Section III A - B.

1. *Corrective Action Observation Wells* to evaluate the lateral and vertical extent of ground-water contamination in the Uppermost Aquifer and evaluate the effectiveness of the corrective action program including Monitored Natural Attenuation (MNA). All corrective action observation wells identified in Attachment A2 of this Compliance Plan may be utilized for this purpose.

- C. Ground-water Corrective Action System to effect withdrawal, treatment, and/or containment of contaminated ground water and non-aqueous phase liquids (NAPLs) by means of monitored natural attenuation, recovery wells, interceptor trenches, bioremediation, air sparging and/or another alternate Corrective Action System design. Any alternate Corrective Action System designs proposed by the Permittee subsequent to issuance of this Compliance Plan that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the Compliance Plan upon approval by the executive director. The type of Corrective Action System in operation at the facility and an evaluation of system performance shall be reported in accordance with Section VII.C.2.

III. GENERAL DESIGN, CONSTRUCTION, AND OPERATION REQUIREMENTS

- A. All plans submitted with the Compliance Plan Application referenced in Section I.F concerning the design, construction, and operation of the authorized components of the Corrective Action and Ground-Water Monitoring Programs are approved. All plans must comply with this Compliance Plan and Texas Commission on Environmental Quality Rules. Any alternate Corrective Action System designs proposed by the Permittee subsequent to issuance of this Compliance Plan that are equivalent to or exceed the performance of the Corrective Action Systems approved herein shall become part of the Compliance Plan upon approval by the executive director.
- B. The following handling methods are authorized for recovered ground water having concentrations of hazardous constituents exceeding the Ground-Water Protection Standard:
1. Disposal at other authorized on-site facility or permitted off-site facility.
 2. Any other treatment methods approved by the executive director.
 3. The method utilized for handling recovered ground water shall be reported in accordance with Section VII.B.2
- C. The Permittee shall maintain a list of disposal methods and volume of all recovered contaminated ground water pursuant to this Compliance Plan, including water purged from wells during sampling at each well, and make it available for inspection upon request.
- D. Recovered NAPLs, if found, shall be managed (treatment, storage, and disposal), or recycled in an authorized on-site unit(s) or an off-site facility.

E. Well Construction, Installation, Certification, Plugging and Abandonment Procedures

1. For all wells to be constructed after issuance of this Compliance Plan that do not meet the well construction specifications identified in Attachment B, the Permittee shall submit to the executive director the proposed well location and construction diagram for approval at least ninety (90) days in advance of the anticipated date of installation or in accordance with an approved schedule for installation. These requirements may be met through submittal of a work plan by the Permittee and subsequent approval by the Executive Director. Well installation shall commence upon written approval of the Executive Director.
2. All wells shall be constructed and maintained so ground-water samples are representative of the aquifer's water quality. A record of drilling and construction details demonstrating compliance with the terms of this Section of this Compliance Plan shall be prepared in accordance with Attachment B. Wells constructed prior to issuance of this Compliance Plan may be utilized as ground-water monitoring wells if they meet the standards of Attachment B or are otherwise authorized by issuance of the Compliance Plan.
3. The Permittee shall submit certification of well installation in accordance with Attachment B in the first report to be submitted pursuant to Section VII.B.2 after well installation is completed. If the Permittee or the executive director determines that the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of ground-water quality, then the Permittee shall replace the well.
4. Unless the Permittee proposes an alternate well design that will result in wells of equivalent performance and specifications, each well installed after issuance of this Compliance Plan shall follow the design specifications contained in Attachment B of this Compliance Plan.
5. Prior to installation of a Point of Compliance, Point of Exposure, or Background replacement well listed in Table V, the Permittee shall submit to the executive director for approval, the replacement well specifications and an explanation of why the well is being replaced. For any such well to be considered as a replacement well and not as a new well, the well shall have no substantive design changes from the well being replaced as determined by the executive director. The well shall be drilled within fifteen (15) feet of the well being replaced unless an alternate location is authorized by the executive director. The Permittee shall submit a replacement well certification to the executive director in accordance with Section VII.C.2 and Attachment B.
6. Plugging and abandonment of a Corrective Action System: a) Background, POC, and/or POE wells in Section II.A shall be subject to the Compliance Plan modification provisions in 30 TAC §305 Subchapter D; and b) Corrective Action Observation and or Corrective Action System wells in Section II.B, shall commence upon written approval of the executive director. The well shall be plugged and abandoned in accordance with Attachment B. The Permittee shall certify proper plugging and abandonment in accordance with Section VII.C.2 and Attachment B.

- F. The Permittee shall not install or maintain any drinking water or supply wells within plumes of ground-water contamination at the facility.

IV. CORRECTIVE ACTION OBJECTIVES AND THE GROUND-WATER PROTECTION STANDARD

Corrective Action Objectives are listed in Sections IV.A through IV.F.

Corrective Action Objectives for units specified in Table I. Parts A [C- Reserved]:

- A. The Ground-Water Protection Standard (GWPS) defines the objective of ground-water quality restoration, with respect to hazardous constituents, which is to be achieved at the Point of Compliance (and Point of Exposure, if applicable) and beyond in accordance with Provision V.A by operation of the Corrective Action Program at this facility.
- B. Point of Compliance is designated in Attachment A2 and further defined for purposes of this Compliance Plan by Table IV, which identifies Point of Compliance wells for which ground-water monitoring procedures will apply (Section VI).
- C. Hazardous constituents detected in ground water are specified in Column A of Table II.
- D. Concentration limits are specified in Table II, Column B as non-detectable values as determined by analytical method Practical Quantitation Limits (PQLs) based on Appendix IX of 40 Code of Federal Regulations (CFR) Part 264, Maximum Concentration of Constituents (MCCs) as listed in Table 1 of 30 TAC §335.160, and/or Alternate Concentration Limits (ACLs) in accordance with 30 TAC §335.160(b). These values shall be utilized as concentration limits of the Ground-Water Protection Standard (GWPS) and shall be the values for statistical comparisons unless Table II is amended in accordance with current guidance and regulations to authorize Alternate Concentration Limits (ACL) as defined in 30 TAC §335.160 (b) or background values in accordance with Section VI.A of this Compliance Plan or any other accepted levels as they are promulgated by the Texas Commission on Environmental Quality or the Environmental Protection Agency. The executive director or the Permittee may request to replace concentration limits through a modification or amendment to this Compliance Plan in accordance with 30 TAC §305 Subchapter D. An application to modify/amend the concentration limits is required to be submitted if the criteria (i.e. risk-based demonstration, site-specific conditions, and/or off-site land use) originally used to establish the GWPS has changed and the current GWPS is not protective of human health and the environment.
- E. Compliance Period for each unit is specified in Table V.
- F. Ground-Water Protection Standard Achieved
1. Achievement of the GWPS in accordance with Section V.A is defined by the results of the data evaluation of Section VI.D wherein the concentrations of hazardous constituents have been reduced by the Corrective Action Program (Section V) to concentrations that do not exhibit an increase when directly compared to the concentration limits of Table II or a statistically significant increase if statistical procedures are used.

2. If the GWPS is achieved at the RCRA-regulated units or waste management areas in accordance with Section V.A in the corrective action area during the Compliance Period, the Permittee may apply to modify or amend this Compliance Plan to revise the Corrective Action Program to the extent necessary to demonstrate by means of the Ground-Water Monitoring Program that the GWPS will not be exceeded during the remainder of the Compliance Period.
3. If the GWPS is not achieved at the RCRA-regulated units or waste management areas in accordance with Section V.A in the corrective action area during the Compliance Period, the Corrective Action Program must continue until the GWPS has not been exceeded in all wells for that corrective action area for three (3) consecutive years.
4. If the GWPS established in this Compliance Plan for the RCRA-regulated unit have not been exceeded for three (3) consecutive years at the end of the Compliance Period, then the Permittee must, within ninety (90) days, submit an application for a Compliance Plan/Permit modification or amendment to establish a Compliance Monitoring Program or a Detection Monitoring Program for the aquifer(s) during the remaining portion of the 30-year post-closure care period in accordance with 40 CFR Part 264.117. If the 30-year post-closure care period has expired, the Permittee may request ground-water monitoring for that RCRA-regulated unit or waste management area be discontinued. Until approval of the request, the Permittee shall continue ground-water monitoring under current Compliance Plan provisions for each RCRA-regulated unit or waste management area.

V. CORRECTIVE ACTION PROGRAM

The Corrective Action Program applies to units specified in Table I, Part A. The Corrective Action Program shall remediate, recover, and/or contain contaminated ground-water from the Uppermost Aquifer and any interconnected lower aquifers, if applicable. The Corrective Action Program shall consist of the system components of Section II, to be operated according to the specifications of this Compliance Plan including but not limited to Monitored Natural Attenuation. The Permittee shall conduct the Corrective Action Program until the performance standards of Section V.A are met. The Permittee shall initiate the Corrective Action Program immediately upon issuance of this Compliance Plan, except where other specific response deadlines may apply.

A. Performance Standard

The Permittee shall conduct the Corrective Action Program to remedy the quality of ground water by removing or treating in place, by Monitored Natural Attenuation or other method approved by the Executive Director, the hazardous constituents so as to achieve the concentration limits specified in the Ground-Water Protection Standard (GWPS) of Section IV of this Compliance Plan in accordance with the following:

1. At the Point of Compliance and between the Point of Compliance and the downgradient facility property line;
2. Beyond the facility boundary where necessary to protect human health and the environment, unless the Permittee demonstrates to the satisfaction of the executive

director that, despite the Permittee's best efforts, the necessary permission from the property owner(s) was not received to undertake such action. The Permittee is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied;

3. Operate the Corrective Action System so as to intercept, contain and/or treat the area of contamination in the Uppermost Aquifer unless the system is under repair or maintenance; and,
 4. Recommend changes to the configuration of the Corrective Action System at any time that it is determined that the contamination present in the Uppermost Aquifer, deeper zone, or any interconnected lower aquifers is not being effectively contained and/or remediated.
 5. The Permittee is required to actively remove NAPLs from the Uppermost Aquifer and any interconnected aquifers wherever found, to the extent technically practicable.
- B. The Corrective Action Program shall consist of the system components of Section II.A through II.C, to be operated according to the plans and specifications as approved in Section III.A and the specifications of this Compliance Plan.

VI. GROUND-WATER MONITORING PROGRAM

The Permittee shall install, operate and maintain the Ground-Water Monitoring System to evaluate the effectiveness of the Corrective Action Program for those units undergoing remediation, as applicable. The Ground-Water Monitoring System, at a minimum, shall be composed of wells specified in Table IV, and shall include Background, Point of Compliance and other wells as necessary which have been approved by the Executive Director and shall include wells identified in Section II.B.1 and Attachment A2.

A. Waste Management Area Specific Background Ground-Water Quality

The Permittee may submit to the executive director for review and approval a plan to determine waste management area specific background values of the naturally-occurring hazardous constituents of Table II in lieu of the concentration limits given in these Tables. The plan shall include appropriate background well locations and screened intervals, well sampling schedules, and methodology for determining and expressing background values in a form appropriate for the statistical evaluation of the monitoring results. Once background values have been established, the Permittee shall submit a modification or amendment request to the Executive Director in accordance with 30 TAC §305 Subchapter D to replace the concentration limits of Table III with the background values.

B. Sampling and Analysis Plan

1. Wells shall be sampled according to the Sampling and Analysis Plan dated April 27, 1998. The Sampling and Analysis Plan is hereby incorporated into the Compliance Plan by reference as if set out fully herein. The Permittee or the Executive Director shall propose modifications as necessary to the Sampling and Analysis Plan. Any

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and all revisions to the plan shall become conditions of this Compliance Plan at the beginning of the first quarter following approval by the executive director.

2. An up-to-date and approved Sampling and Analysis Plan shall be maintained at the facility and made available for inspection upon request.
3. The collected samples shall be analyzed in accordance with the current edition of U.S. EPA Publication SW-846, Test Methods for Evaluating Solid Waste and American Society for Testing and Materials (ASTM) Standard Test Methods or any other methods accepted by the TCEQ. Ground-water analyses required by this Compliance Plan shall utilize laboratory methods which are capable of measuring the concentration of each hazardous constituent at a concentration equal to or less than the corresponding value specified in Table III except when matrix interference prevents achievement of that level.

C. Sampling and Analysis Frequencies and Parameters

1. Frequencies of sampling are defined below:
 - a. "Week" and "month" shall be based upon a calendar week and month;
 - b. "Quarter" shall be based on divisions of the calendar year (i.e., January through March, April through June, July through September, October through December);
 - c. "Semiannual" shall be based on divisions of the calendar year (i.e., January through June, July through December) and consist of two consecutive quarters;
 - d. "Annual" or "Year" shall be four consecutive quarters, beginning with the first quarter. Years shall be designated consecutively, beginning with the "first year", "second year", etc; and,
 - e. "Calendar year" shall be based on divisions of the calendar (i.e. January through December).
2. Sampling of wells shall commence during the first complete quarter after issuance of this Compliance Plan. Thereafter, samples shall be collected on a semiannual basis during the first thirty (30) days of each first and third quarter. Data evaluations shall be completed within sixty (60) days of collection of the last sample date unless QA/QC procedures show that data is unacceptable and reanalyses or resampling must be performed. In such cases, the executive director will be notified as soon as it becomes apparent that the 60-day time limit will not be met.
3. In the first and subsequent years of ground-water monitoring, the wells shall be sampled and analyzed according to the following schedules:
 - a. Corrective Action Monitoring for units specified in Table I, Part A.

- i. Each Background Well, Point of Compliance (POC) Well, and Corrective Action Observation Well shall be sampled and analyzed semiannually for the constituents of Table III until the achievement of the Ground-Water Protection Standards (GWPS) in accordance with Section IV.F.
 - ii. Each Corrective Action Observation Well shall continue to be sampled according to Section VI.C until any changes to these groups of wells are approved by the executive director pursuant to Section II.C.
 - iii. Each POC Well of Table IV shall be sampled for the constituents of Table III according to Section VI.C until analytical results satisfy the GWPS of Table III for all POC Wells of that unit or area for two consecutive sampling events. All POC Wells shall then be sampled and analyzed semiannually for the constituents of Table II until all constituents of Table II are below the GWPS for all POC Wells of that unit or area in accordance with Section IV.F.
 - iv. If the GWPS is achieved in all Wells (Background, POC, Corrective Action Observation) in accordance with Section IV.F.1, then the Permittee may apply to modify or amend the Compliance Plan according to Section IV.F.2., or Section IV.F.4.
 - v. Any well with non-aqueous phase liquids (NAPLs) detected in the wellbore shall be considered as non-compliant with the GWPS and is not required to be analyzed for the constituents of Table II or Table III.
4. Field Determination Requirements - All Wells Specified in Section VII.C.2.c.
 - a. Water level measurements relative to Mean Sea Level shall be measured to within 0.01 ft and shall be performed during each sampling event effective immediately with issuance of this Compliance Plan. Measurements shall be taken in all monitor wells specified in this Compliance Plan.
 - b. Field determinations of pH, Temperature and Specific Conductivity are required for all Background, POC, and Corrective Action Observation wells, excluding wells containing NAPLs. Turbidity in nephelometric turbidity units (NTUs) is required if micropurging techniques are utilized during sample collection.
 - c. Field observations including descriptions of appearance (clarity, color, etc.) shall be recorded semiannually for all Background, POC, and Corrective Action Observation, excluding wells containing NAPL.
 - d. The total depth of each well which is not equipped with a dedicated pump, shall be measured during each sampling event. Total depth of each well which is equipped with a dedicated pump, shall be measured when: 1) pumps are removed for maintenance; or 2) the ground-water production

rate of the dedicated pump decreases by 25% from the initial production rate when the pump was installed. The measured total depth shall be compared to the total depth recorded on the well construction log. Should a comparison of the measured and the recorded total depth reveal that greater than 20% of the well screen has been silted in, the Permittee shall perform such actions necessary (redevelopment, replacement, etc.) to enable the well to function properly.

- e. All wells specified in Section VII.C.2.c shall be inspected during each sampling event in accordance with specifications in the Sampling and Analysis Plan. Repairs or a proposal for replacement for any affected well shall be performed within ninety (90) days of the routine sampling event inspection which identified the problem well.

D. Data Evaluation Procedures

Data evaluation in accordance with this Section shall be performed within sixty (60) days of sample collection for all wells for the duration of the Corrective Action Monitoring programs. When evaluating the monitoring results of each well pursuant to Section VI for the constituents of Tables II or III for corrective action monitoring:

1. For corrective action monitoring: Directly compare the value of each constituent to the respective concentration limit of Table II or Table III and determine if it is less than, equal to, or greater than the concentration limit. If the values for all the constituents are less than or equal to the respective concentration limits, then the well shall be considered compliant with the Ground-Water Protection Standard (GWPS) for the sampling event. If one or more constituent value is greater than the respective concentration limit, then the well shall be considered non-compliant with the GWPS for the sampling event; or,
2. Compare the value of each constituent to its respective concentration limit of Table II or III for corrective action monitoring using one of the following procedures:
 - a. The Confidence Interval Procedure for the mean concentration based on a normal, log-normal, or ~~of~~ non-parametric distribution. The 95 percent confidence coefficient of the t-distribution will be used in constructing the confidence interval (Section 6.2.1 of Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Interim Final Guidance, U.S. EPA, April 1989) and the Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Addendum to Interim Final Guidance (July 1992). The confidence interval upper limit for each constituent shall be compared with the corresponding concentration limit in Table II or III for corrective action monitoring. To be considered in compliance, the confidence interval upper limit for a well in question must not exceed the tabled concentration limit. A confidence interval upper limit above the tabled concentration limit shall be considered as evidence of statistically significant contamination; or,
 - b. An alternative statistical method proposed by the Permittee and approved by the TCEQ. Any proposed alternative method must be appropriate with

respect to distributional assumptions and must provide reasonable control of both false positive and false negative error rates.

3. Within thirty (30) days of an initial data evaluation that determines concentration limits have been exceeded in a well pursuant to Sections VI.D.1 or VI.D.2, the Permittee may resample and repeat the analysis to verify concentration limits have been exceeded. If the second analysis indicates that the sample does not exceed the concentration limits, then the well shall be considered compliant with the concentration limits for the sampling event.

VII. RESPONSE AND REPORTING

A. Corrective Action Monitoring for units specified in Table I, Parts A [and C - Reserved].

1. If the Permittee or the executive director determines that the Corrective Action Program required by this Compliance Plan no longer satisfies the requirements of 30 TAC §335.166 or §335.167, the Permittee must, within ninety (90) days of either the Permittee's determination or executive director's notification, submit an application for a Compliance Plan modification or amendment to make any appropriate changes to the Corrective Action Program which will satisfy the regulations.
2. If the executive director determines that the lateral or vertical extent of ground-water contamination is not delineated, the Permittee must, within ninety (90) days of the date of the executive director's notification unless otherwise directed, initiate an investigation to determine the extent of the contamination based on the Practical Quantitation Limits (PQLs) of 40 CFR Part 264 Appendix IX or other applicable standard as required or approved by the executive director.

B. Compliance Monitoring - RESERVED

C. Reporting Requirements for Corrective Action Monitoring

1. Water table maps shall be prepared from the ground-water data collected pursuant to Section VI and shall be evaluated by the Permittee with regard to the following parameters:
 - a. Direction and gradient of ground-water flow;
 - b. Effectiveness of hydrodynamic control of the contaminated zone during operation; and,
2. The Permittee shall submit a Ground Water Monitoring Report to each recipient listed in Section XII.C by January 21 and July 21 of each year and shall include the following information determined since the previously submitted report, if those items are applicable.
 - a. The Corrective Action System(s) authorized under Section II.C in operation during the reporting period and a narrative summary of the evaluations made in accordance with Sections V, VI, and VII of this Compliance Plan for the preceding reporting period. The reporting periods shall be January

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1 through June 30 and July 1 through December 31 for Corrective Action Monitoring. The period for Compliance Monitoring shall be based on the calendar year;

- b. The method(s) utilized for management of recovered/purged ground water shall be identified in accordance with Section III.B;
- c. An updated table and map of all monitoring and corrective action system wells. The wells to be sampled shall be those wells proposed in the Compliance Plan Application referenced in Section I.F and any changes subsequently approved by the executive director pursuant to Section II.C. Provide in chronological order, a list of those wells which have been added to, or deleted from, the ground-water monitoring and remediation systems since original issuance of the Compliance Plan. Include the date of TCEQ approval for each entry;
- d. The results of the chemical analyses, submitted in a tabulated format acceptable to the executive director which clearly indicates each parameter that exceeds the GWPS. Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the executive director;
- e. Tabulation of all water level elevations required in Section VI.C.4.a, depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous monitoring report;
- f. Potentiometric surface maps showing the elevation of the water table at the time of sampling;
- g. A notation of the presence or absence of NAPLs, both light and dense phases, in each well during each sampling event since the last event covered in the previous monitoring report and tabulation of depth and thickness of NAPLs, if detected;
- h. Quarterly tabulations of quantities of recovered ground-water and NAPLs, and graphs of monthly recorded flow rates versus time for the Recovery Wells during each reporting period. A narrative summary describing and evaluating the NAPL recovery program shall also be submitted;
- i. Tabulation of the total contaminant mass recovered from each recovery system for each reporting period;
- j. Tabulation of all data evaluation results pursuant to Section VI.D and status of each well with regard to compliance with the Corrective Action objectives and compliance with the GWPS;
- k. Maps of the contaminated area depicting concentrations of Table III constituents and any newly detected Table II constituents as isopleth contours or discrete concentrations if isopleth contours cannot be inferred. Areas where concentrations of constituents exceed the GWPS should be clearly delineated;

- l. Maps indicating the extent and thickness of the LNAPLs and DNAPLs, if detected;
 - m. An updated schedule summary as required by Section X;
 - n. Summary of any changes made to the monitoring/corrective action program and a summary of well inspections, repairs, and any operational difficulties;
 - o. A table of all modifications and amendments made to this Compliance Plan with their corresponding approval dates by the executive director or the Commission and a brief description of each action;
 - p. Corrective Measures Implementation (CMI) Report to be submitted in accordance with Section VIII.F, if necessary;
 - q. Tabulation of well casing elevations in accordance with Attachment B No. 16;
 - r. Recommendation for any changes;
 - s. Certification and well installation diagram for any new well installation or replacement and certification for any well plugging and abandonment;
 - t. Any other items requested by the executive director; and,
 - u. A summary of any activity within an area subject to institutional control.
3. The Permittee shall submit an Annual MNA Performance Report by July 21 of each year that provides, at a minimum, the information specified in VII C 3.a.-g. (as referenced below) for each subsequent year of sampling. The Annual MNA Performance Reports must also provide trend comparisons of performance results from current and previous year(s) data to verify that natural attenuation is occurring at rates sufficient to attain site-specific remediation objectives and at rates predicted by models.
- a. Description and illustration of current and historic site data (e.g., nature, extent and magnitude of contamination, 3-D presentation of geologic and hydrogeologic data, location of potential receptor exposure points).
 - b. Site Screening Report that, at a minimum, documents the potential for natural attenuation based on the groundwater monitoring results of samples collected from monitor wells over a period of no less than four (4) successive quarters as defined in Section VI.C.
 - c. Supporting information for conceptual model development and complete pre-modeling calculations.
 - d. Simulation of natural attenuation using a solute fate and transport model(s) to achieve established remedial objectives. All calculations must be

independent of the effects of existing corrective action system (i.e., recovery systems) on groundwater flow conditions.

- e. Results of a receptor exposure pathways analysis to identify potential human and ecological receptors and points of exposure under current and future land and ground-water use scenarios.
 - f. Evaluation of supplemental source removal, treatment or containment measures, as necessary, to achieve the remedial objectives.
 - g. Conclusions and recommendations.
4. The Permittee shall enter all monitoring, testing, analytical, and inspection data obtained or prepared pursuant to the requirements of this Compliance Plan, including graphs and drawings, in the operation record at the facility. The operating record at the facility shall be made available for review by the staff of the Texas Commission on Environmental Quality upon request.

VIII. CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

A. Corrective Action Obligations

The Permittee shall conduct corrective action as necessary to protect human health and the environment for all releases of hazardous waste, hazardous constituents and other constituents of concern from any Solid Waste Management Unit (SWMU) and/or AOC. The Permittee shall fulfill this obligation by conducting Corrective Action under 30 TAC 335.167, which consists of the RCRA Facility Investigation (RFI), and if necessary, Stabilization/Interim Corrective Measures, Baseline Risk Assessment (BLRA)/Corrective Measures Study (CMS) and Corrective Measures Implementation (CMI). The Permittee shall conduct an RFI (or alternate, but equivalent investigation) to determine whether hazardous waste or hazardous constituents listed in 40 CFR Part 261, Appendix VIII and/or 40 CFR Part 264, Appendix IX and/or other constituents of concern have been released into the environment. If it is determined that hazardous waste, hazardous constituents or other constituents of concern have been or ~~are~~ being released into the environment, then the Permittee may be required to conduct Stabilization/Interim Corrective Measures, a BLRA/CMS and/or a CMI which is protective of human health and the environment.

Upon executive director's review of Corrective Action obligations, the Permittee may be required to perform any or all of the following:

- 1. Conduct investigation(s);
- 2. Provide additional information;
- 3. Investigate additional SWMU(s) and/or AOC(s); and/or,
- 4. Proceed to the next task in the Corrective Action Program; and/or
- 5. Submit an application for a modification/amendment to a Compliance Plan to implement corrective measures.

Any additional requirements must be completed within the time frame(s) specified by the Executive Director.

- B. The Permittee shall conduct an RFI for the SWMUs and/or AOCs listed in Table I in accordance with Section I.D, and for the new SWMUs and/or AOCs discovered after the issuance of this Compliance Plan in accordance with Section I.E.

C. Variance From Investigation

The Permittee may elect to certify that no hazardous waste or hazardous constituents listed in 40 CFR Part 261, Appendix VIII and/or 40 CFR Part 264, Appendix IX or other constituents of concern are or never have been present/managed in a SWMU and/or AOC referenced in Section VIII.B in lieu of performing the investigation required in Sections VIII.A and VIII.D, provided that confirming data is submitted for the current and past waste(s) managed in the respective unit. The Permittee shall submit such information and certification(s) on a unit-by-unit basis in the time frame required in Section VIII.D for review and approval by the executive director of the TCEQ. If the Permittee cannot demonstrate and certify that hazardous waste, hazardous constituents or other constituents of concern are not or were not present in a particular unit, the investigation required in Sections VIII.A and VIII.D shall be performed for the unit.

D. RCRA Facility Investigation (RFI)

Within sixty (60) days from the date of issuance of this Compliance Plan and/or within sixty (60) days of approval of the RFA Report which recommends further investigation of a SWMU and/or AOC in accordance with Section I.E, the Permittee shall submit a schedule for completion of the RFI(s) (or alternate, but equivalent investigation) for the SWMUs and/or AOCs referenced in Section VIII.B to the executive director for review and approval. The Permittee shall initiate the investigations in accordance with the approved schedule and shall address all of the items for RFI Workplan and RFI Report contained in the U.S. EPA publication EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 or other guidance acceptable to the executive director. The results of the RFI must be submitted to the executive director for approval in the form of an RFI Report within the time frame established in the approved schedule. The RFI Report must appropriately document results of the investigation(s). The Report shall be considered complete when the full nature and extent of the contamination, the Quality Assurance/Quality Control procedures and the Data Quality Objectives are documented to the satisfaction of the executive director. The Permittee shall propose or conduct Stabilization/Interim Corrective Measures, as necessary, to protect human health and the environment.

E. Baseline Risk Assessment (BLRA)/Corrective Measures Study (CMS)

Upon approval of RFI Report, if it is determined that there has been a release of hazardous waste or hazardous constituents (listed in 40 CFR Part 261, Appendix VIII and/or 40 CFR Part 264 Appendix IX) or other constituents of concern into the environment, which poses a potential risk to human health and the environment, then the Permittee shall propose a remedy in accordance with the TCEQ Risk Reduction Standard (RRS) rules or the Texas Risk Reduction Program (TRRP) rules or as otherwise authorized by the executive director. This may require a BLRA and/or CMS Report (or equivalent assessment and/or report) to be submitted for review and approval within the time frame(s) specified by the executive

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director. This Report will identify potential receptors and evaluate risk, and if necessary identify and evaluate corrective measure alternatives and recommend appropriate corrective measure(s) to protect human health and the environment. The BLRA and/or CMS Report (or equivalent assessment and/or report) shall address all of the applicable items in the RRS, TRRP or other rules acceptable to the executive director and the U.S. EPA publications EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 or other guidance acceptable to the Executive Director.

F. Corrective Measures Implementation (CMI)

If on the basis of the RFI and/or BLRA/CMS it is determined that there is a risk to the human health and environment, then the Permittee shall submit for approval a CMI Workplan(s) within one-hundred-eighty (180) days of receipt of approval of the RFI and/or BLRA/CMS Report unless otherwise extended by the executive director. The CMI Workplan shall address all of the applicable items in the U.S. EPA publications EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 or other guidance acceptable to the executive director. The CMI Workplan shall contain detailed final proposed engineering design, monitoring plans and time frames necessary to implement the selected remedy and assurances of financial responsibility for completing the corrective action. Following review and approval, and upon installation of a corrective action system based upon the approved CMI Workplan, the Permittee shall submit a CMI Report which includes as-built drawings of the corrective action system. The CMI Report shall address all the applicable items in the U.S. EPA publications EPA/520-R-94-004, OSWER Directive 9902.3-2A, RCRA Corrective Action Plan (Final), May 1994 or other guidance acceptable to the executive director.

If the CMI Workplan does not propose a permanent remedy, then the CMI Workplan shall be submitted as an application to modify/amend the Compliance Plan within the timeframes specified by the executive director. All the requirements of the previous paragraph apply to the corrective measures implemented through the Compliance Plan. Implementation of the corrective measure(s) shall be addressed through issuance of a modified/amended Compliance Plan.

To report the progress of the corrective measures, the Permittee shall submit periodic CMI Progress Reports to the TCEQ in accordance with the schedule specified in the Compliance Plan, or as otherwise directed.

IX INTERIM STABILIZATION MEASURES (ISMs) PROGRAM - [RESERVED]

X. COMPLIANCE SCHEDULE

- A. Within sixty (60) days of issuance of this Compliance Plan, the Permittee shall submit to the executive director a schedule summarizing all activities required by the Compliance Plan. The schedule shall list the starting dates of all routine activities. The Permittee shall include an updated schedule in the semiannual report. The schedule shall list the activity or report, the Compliance Plan Section which requires the activity or report and the calendar date the activity or report is to be completed or submitted (if this date can be determined).

Safety-Kleen Corporation
Missouri City Service Center

XI. FINANCIAL ASSURANCE

The Permittee shall provide financial assurance for operation of the Ground-Water Monitoring and Corrective Action Programs, as applicable, in accordance with this Compliance Plan in a form acceptable to the executive director in an initial amount not less than \$184,712 within ninety (90) days of issuance of this Compliance Plan. The financial assurance shall be secured, maintained, and adjusted in compliance with TCEQ regulations on hazardous waste financial requirements (30 TAC §335.152 and §335.167 and 40 CFR Part 264 Subpart H).

XII. GENERAL PROVISIONS

A. Deed Recordation Requirements

For waste and contaminated soil (including saturated soils) approved to remain in place above background concentration levels after completion of the corrective action and/or ground-water monitoring programs, the Permittee shall record an instrument in the county deed records for the facility to specifically identify the areas of contamination exceeding background values. The deed certification shall follow the requirements of 30 TAC §335.560 and §335.569 or 30 TAC §350.111, where applicable.

B. Notification Requirements

The Permittee shall notify the local TCEQ region office at least ten (10) days prior to any well installation or sampling activity required by the Compliance Plan in order to afford Region personnel the opportunity to observe these events and collect samples. This notification requirement will not apply to the routine semiannual or annual ground-water sampling events specified in this Compliance Plan.

C. Distribution of Copies

The Permittee shall submit all schedules, plans, and reports required by this Compliance Plan according to the following distribution list:

1. An original and one copy to the Corrective Action Section, Mail Code MC-127, Remediation Division, Texas Commission on Environmental Quality in Austin, Texas; and,
2. One copy to the Waste Program, Texas Commission on Environmental Quality Region 12 Office in Houston, Texas.

D. Compliance Plan Modification or Amendment

If the Permittee determines that the Compliance Monitoring Program, Corrective Action Program, Compliance Schedule, or Financial Assurance required by this Compliance Plan no longer satisfies the requirements of 30 TAC §335.165, §335.166 or §335.167, the Permittee must, within ninety (90) days of making this determination, submit an application for a modification or amendment to make any appropriate changes to the Compliance Plan which will satisfy the regulations. Any application to modify or amend the Compliance Plan shall be accomplished in accordance with the provision of 30 TAC 305 Subchapter D and submitted in accordance with the Compliance Plan Application's general instructions.

- E. Any changes to the Corrective Action or Ground-Water Monitoring Systems are subject to executive director's approval.

XIII. FORCE MAJEURE

The Permittee's non-compliance with one or more of the provisions of this Compliance Plan may be justified only to the extent and for the duration that non-compliance is caused by a "Force Majeure" event. For purposes of this Compliance Plan, "Force Majeure" is defined as an event that is caused by an Act of God, labor strike, or work stoppage, or other circumstance beyond the Permittee's control that could not have been prevented by due diligence, and that makes substantial compliance with the applicable provision or provisions of this Compliance Plan impossible.

The occurrence of a "Force Majeure" event that justifies the missing of one deadline shall not automatically justify the missing of later deadlines unless there is a cumulative effect due to such an event. The Permittee shall keep a record of any delaying events.

If the Permittee anticipates or experiences an inability to comply with any of the provisions of this Compliance Plan due to a "Force Majeure" event, the Permittee shall notify the executive director (TCEQ) immediately (within 24 hrs). A written notice must be submitted to the TCEQ within ten (10) days, which describes the nature, cause, and anticipated length of the delay and all steps which the Permittee has taken and will take, with a schedule for their implementation, to avoid or minimize the delay. In the event that performance of any of the activities required by this Compliance Plan is affected by a "Force Majeure" event, then the Permittee shall propose a plan for the executive director's (TCEQ) approval, for achieving the objectives of the Compliance Plan by alternative means in the most timely manner.

TABLE I
Waste Management Units Subject to Ground-water
Corrective Action

The Compliance Plan is specific to the following waste management units or areas for which the ground-water Corrective Action Programs apply, pursuant to 30 TAC §335.166, for releases from RCRA-regulated units. The following RCRA-Regulated Unit can be seen in Attachment A2.

- A. RCRA-REGULATED UNITS SUBJECT TO THE CORRECTIVE ACTION PROGRAM
 - 1. Area AA
- B. RCRA-REGULATED UNITS SUBJECT TO THE COMPLIANCE MONITORING PROGRAM
 - 1. *RESERVED*
- C. SOLID WASTE MANAGEMENT SUBJECT TO CORRECTIVE ACTION PROGRAM
 - 1. *RESERVED*

TABLE II - CORRECTIVE ACTION PROGRAM
Table of Detected Hazardous and Solid Waste Constituents and
Concentration Limits for the Ground-Water Protection Standard

	COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (ug/L)
1. Area AA		
	Benzene	ND(5.0)
	Chlorobenzene	ND(5.0)
	1,1-Dichloroethane	ND(5.0)
	1,2-Dichloroethene (total)	ND(5.0)
	Ethyl benzene	ND(5.0)
	Methyl Ether Ketone (MEK)	ND(100.0)
	Methyl Isobutyl Ketone (MIBK)	ND(50.0)
	Tetrachloroethene	ND(5.0)
	Trichloroethene	ND(5.0)
	Toluene	ND(5.0)
	Xylene (total)	ND(5.0)
	Vinyl Chloride	ND(2.0)
	Cadmium	10.0 ^{MCC}
	Lead	50.0 ^{MCC}

ND Non-detectable at Practical Quantitation Limit as determined by the analytical methods of the current edition of United States Environmental Protection Agency publication SW-846 Test Methods for Evaluating Solid Waste, (USEPA SW-846) and as listed in the July 8, 1987 edition of the Federal Register and later editions. Practical Quantitation Limit (PQL) is indicated in parentheses. Practical Quantitation Limits are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions.

MCC Maximum Concentration of Constituents (MCC) for Ground-Water Protection specified in Table I of 30 TAC §335.160.

TABLE III - CORRECTIVE ACTION PROGRAM
Table of Indicator Parameters and Concentration Limits for
the Ground-Water Protection Standard

	COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (ug/L)
1. Area AA		
	Chlorobenzene	ND (5.0)
	Xylene	ND (5.0)
ND	Non-detectable at Practical Quantitation Limit as determined by the analytical methods of the current edition of United States Environmental Protection Agency publication SW-846 <u>Test Methods for Evaluating Solid Waste</u> , (USEPA SW-846) and as listed in the July 8, 1987 edition of the Federal Register and later editions. Practical Quantitation Limit (PQL) is indicated in parentheses. Practical Quantitation Limits are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions.	

TABLE IV
Designation of Wells by Function

POINT OF COMPLIANCE WELLS

1. RW-1
2. MW-8
3. MW-9

BACKGROUND WELLS

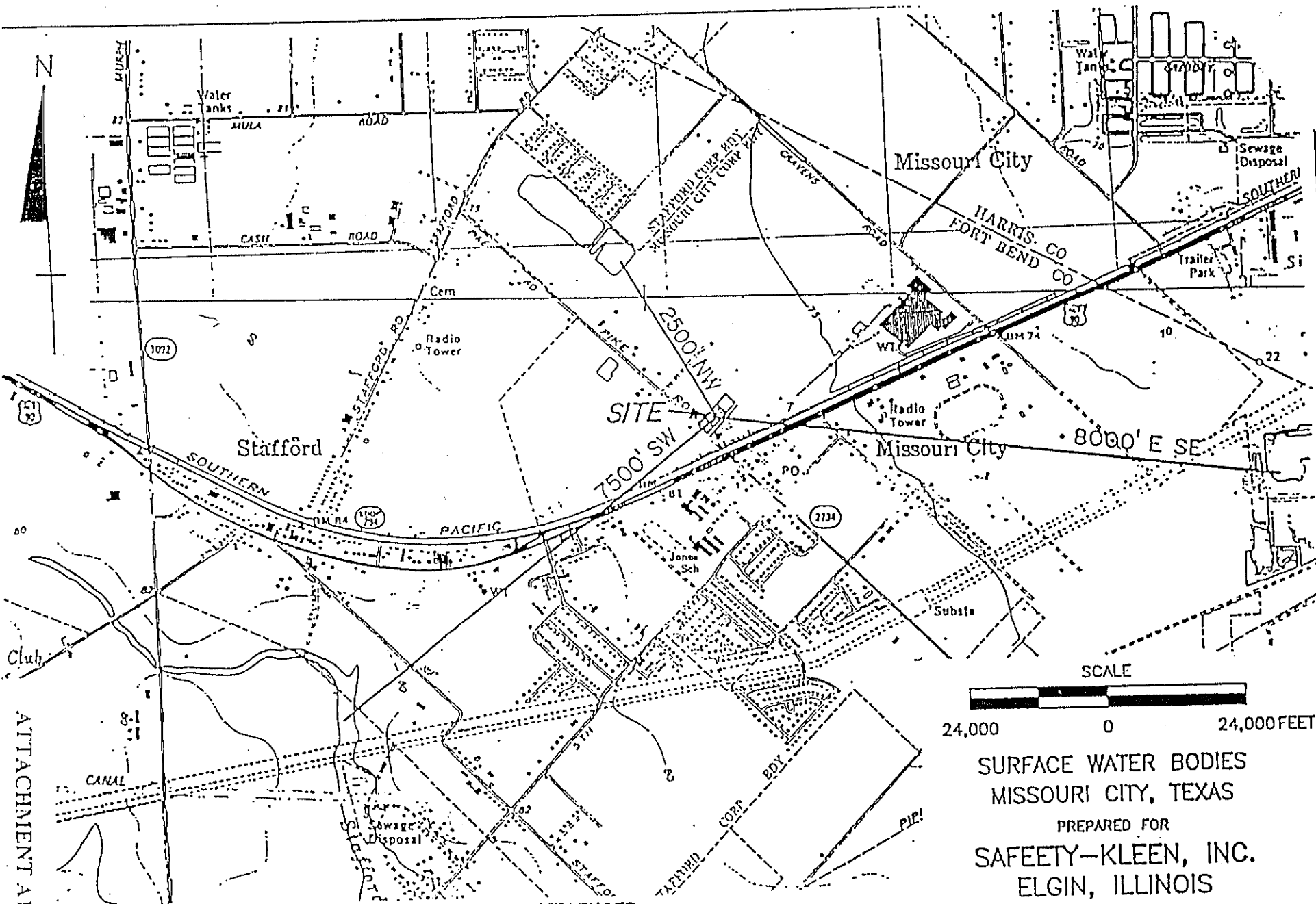
1. MW-7

Note: Wells and piezometers identified on Attachment A maps that are not listed in this table are subject to change, upon approval by the executive director, without modification to the Compliance Plan.

TABLE V
Compliance Period

Area AA

Year Waste Management Activities Initiated	1975
Year Closed	1987
Compliance Period	12 Years
Compliance Period Began	1994



REFERENCES:

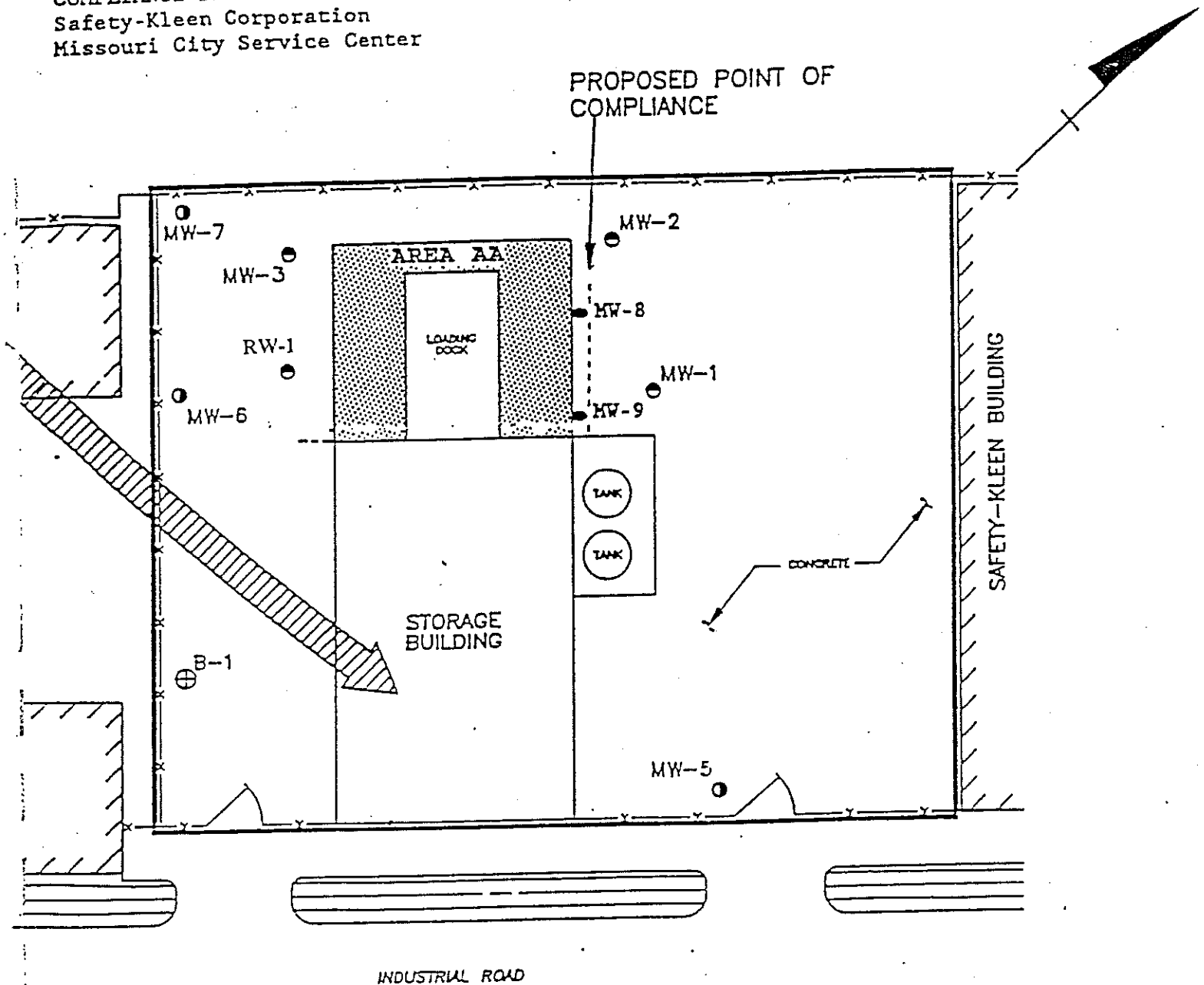
-USGS 7.5 MINUTE MISSOURI CITY
QUADRANGLE TEXAS
SCALE: 1"=24,000'

SURFACE WATER BODIES
MISSOURI CITY, TEXAS
PREPARED FOR
SAFETY-KLEEN, INC.
ELGIN, ILLINOIS

Canonie Environmental

Compliance Plan No. CP-50236
Safety-Kleen Systems, Inc. - Missouri City
Attachment A, Sheet 1 of 2

COMPLIANCE PLAN NO. CP-50236
 Safety-Kleen Corporation
 Missouri City Service Center



● PROPOSED ADDITIONAL
 POINT OF COMPLIANCE WELLS

B-1 ⊕ BORING LOCATION
 AND DESIGNATION

▤ APPARENT DIRECTION OF
 GROUND WATER FLOW

GROUND WATER COMPLIANCE
 UNIT BOUNDARIES MAP
 MISSOURI CITY, TEXAS

PREPARED FOR

SAFETY-KLEEN, INC.
 ELGIN, ILLINOIS

Canonie Environme

DATE: 1-9-92
 SCALE: AS SHOWN

ATTACHMENT A2

Attachment B - Well Design and Construction Specifications

1. The Permittee shall use well drilling methods that minimize potential adverse effects on the quality of water samples withdrawn from the well, and that minimize or eliminate the introduction of foreign fluids into the borehole.
2. All wells constructed to meet the terms of this Compliance Plan shall be constructed such that the wells can be routinely sampled with a pump, bailer, or alternate sampling device. Piping associated with recovery wells should be fitted with sample ports or an acceptable alternative sampling method to facilitate sampling of the recovered ground water on a well by well basis.
3. Above the saturated zone the well casing may be two (2)-inch diameter or larger schedule 40 or 80 polyvinyl chloride (PVC) rigid pipe or stainless steel or polytetrafluoroethylene (PTFE or "teflon") or an approved alternate material. The PVC casing must bear the National Sanitation Foundation logo for potable water applications (NSF-pw). Solvent cementing compounds shall not be used to bond joints and all connections shall be flush-threaded. In and below the saturated zone, the well casing shall be stainless steel or PTFE.

The Permittee may use PVC or fiberglass reinforced resin as an alternate well casing material in and below the saturated zone provided that it yields samples for ground-water quality analysis that are unaffected by the well casing material.

4. The Permittee shall replace any well that has deteriorated due to incompatibility of the casing material with the ground-water contaminants or due to any other factors. Replacement of the damaged well shall be completed within ninety (90) days of the date of the inspection that identified the deterioration.
5. Well casings and screens shall be steam cleaned prior to installation to remove all oils, greases, and waxes. Well casings and screens made of fluorocarbon resins shall be cleaned by detergent washing.
6. For wells constructed after the date of issuance of this Compliance Plan, the screen length shall not exceed ten (10) feet within a given transmissive zone unless otherwise approved by the executive director. Screen lengths exceeding ten (10) feet may be installed in ground-water recovery or injection wells to optimize the ground-water remediation process in accordance with standard engineering practice.
7. The Permittee shall design and construct the intake portion of a well so as to allow sufficient water flow into the well for sampling purposes and minimize the passage of formation materials into the well during pumping. The intake portion of a well shall consist of commercially manufactured stainless steel or PTFE screen or approved alternate material. The annular space between the screen and the borehole shall be filled with clean siliceous granular material (i.e., filter pack) that has a proper size gradation to provide mechanical retention of the formation sand and silt. The well screen slot size shall be compatible with the filter pack size as determined by sieve analysis data. The filter pack should extend no more than three (3) feet above the well screen. A silt trap, no greater than one (1) foot in length, may be added to the bottom of the well screen to collect any silt that may enter the well. The bottom of the well casing shall be capped with PTFE or stainless steel or approved alternate material.

Ground-water recovery and injection wells shall be designed in accordance with standard engineering practice to ensure adequate well production and accommodate ancillary equipment. Silt

traps exceeding one (1) foot may be utilized to accommodate ancillary equipment. Well heads shall be fitted with mechanical wellseals, or equivalent, to prevent entry of surface water or debris.

8. A minimum of two (2) feet of pellet or granular bentonite shall immediately overlie the filter pack in the annular space between the well casing and borehole. Where the saturated zone extends above the filter pack, pellet or granular bentonite shall be used to seal the annulus. The bentonite shall be allowed to settle and hydrate for a sufficient amount of time prior to placement of grout in the annular space. Above the minimum two (2)-foot thick bentonite seal, the annular space shall be sealed with a cement/bentonite grout mixture. The grout shall be placed in the annular space by means of a tremie pipe or pressure grouting methods equivalent to tremie grouting standards.

The cement/bentonite grout mixture or TCEQ approved alternative grout mixture shall fill the annular space to within two (2) feet of the surface. A suitable amount of time shall be allowed for settling to occur. The annular space shall be sealed with concrete, blending into a cement apron at the surface that extends at least two (2) feet from the outer edge of the monitor well for above-ground completions. Alternative annular-space seal material may be proposed with justification and must be approved by the executive director prior to installation.

In cases where flush-to-ground completions are unavoidable, a protective structure such as a utility vault or meter box should be installed around the well casing and the concrete pad design should prevent infiltration of water into the vault. In addition, the Permittee must ensure that 1) the well/cap juncture is watertight; 2) the bond between the cement surface seal and the protective structure is watertight; and 3) the protective structure with a steel lid or manhole cover has a rubber seal or gasket.

9. Water added as a drilling fluid to a well shall contain no bacteriological or chemical constituents that could interfere with the formation or with the chemical constituents being monitored. For ground-water recovery and injection wells, drilling fluids containing freshwater and treatment agents may be utilized in accordance with standard engineering practice to facilitate proper well installation. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.
10. Upon completion of installation of a well, the well must be developed to remove any fluids used during well drilling and to remove fines from the formation to provide a particulate-free discharge to the extent achievable by accepted completion methods and by commercially available well screens. Development shall be accomplished by reversing flow direction, surging the well or by air lift procedures. No fluids other than formation water shall be added during development of a well unless the aquifer to be screened is a low-yielding water-bearing aquifer. In these cases, the water to be added should be chemically analyzed to evaluate its potential impact on in-situ water quality, and to assess the potential for formation damage.

For recovery and injection wells, well development methods may be utilized in accordance with standard engineering practice to remove fines and maximize well efficiency and specific capacity. Addition of freshwater and treatment agents may be utilized during well development or re-development to remove drilling fluids, inorganic scale or bacterial slime. In these cases, the water and agents added should be chemically analyzed to evaluate their potential impact on in-situ water quality and to assess the potential for formation damage. All such additives shall be removed to the extent practicable during well development.

11. Each well shall be secured and/or designed to maintain the integrity of the well borehole and ground water.
12. The Permittee shall protect the above-ground portion of the well by bumper guards and/or metal outer casing protection when wells are located in traffic areas or outside the secured plant area.
13. Copies of drilling and construction details demonstrating compliance with the items of this provision shall be kept on site. This record shall include the following information:
 - . name/number of well (well designation);
 - . intended use of the well(sampling, recovery, etc.);
 - . date/time of construction;
 - . drilling method and drilling fluid used;
 - . well location (± 0.5 ft.);
 - . bore hole diameter and well casing diameter;
 - . well depth (± 0.1 ft.);
 - . drilling and lithologic logs;
 - . depth to first saturated zone;
 - . casing materials;
 - . screen materials and design;
 - . casing and screen joint type;
 - . screen slot size/length;
 - . filter pack material/size;
 - . filter pack volume (how many bags, buckets, etc.);
 - . filter pack placement method;
 - . sealant materials;
 - . sealant volume (how many bags, buckets, etc.);
 - . sealant placement method;
 - . surface seal design/construction;
 - . well development procedure;
 - . type of protective well cap;
 - . ground surface elevation (± 0.01 ft. MSL);
 - . top of casing elevation (± 0.01 ft. MSL); and,
 - . detailed drawing of well (include dimensions).
14. The Permittee shall complete construction or plugging and abandonment of each well in accordance with the requirements of this Compliance Plan and 16 TAC Chapter 76 and shall certify such proper construction or plugging and abandonment in the first report submitted pursuant to Section VII.C.2 following installation or plugging and abandonment. Well completion logs for each newly installed or replaced well shall be included with the report. The certification shall be prepared by a qualified geologist or geotechnical engineer. Each well certification shall be accompanied by a certification report, including an accurate log of the soil boring, which thoroughly describes and depicts the location, elevations, material specifications, construction details, and soil conditions encountered in the boring for the well. A copy of the certification and certification report shall be kept on-site, and a second copy shall be submitted to the executive director. Required certification shall be in the following format, edited as appropriate:

"This is to certify that installation (*or plugging and abandonment*) of the following facility components authorized or required by TCEQ Compliance Plan No. CP-50236 has been completed, and that construction (*or plugging*) of said components has been performed in accordance with and in compliance with the design and construction specifications of Compliance Plan No. CP-50236.

15. The Permittee shall clearly mark and maintain the well number on each well at the site.
16. The Permittee shall measure and keep a record of the elevation of the top of each well casing in feet above mean sea level to the nearest 0.01 foot and permanently mark the measuring point on the well. The Permittee shall compare old and new elevations from previously surveyed wells and determine a frequency of surveying not to exceed five (5) year intervals.
17. Wells may be replaced at any time the Permittee or executive director determines that the well integrity or materials of construction or well placement no longer enable the well to yield samples representative of ground-water quality.
18. The Permittee shall plug soil test borings and wells removed from service after issuance of the Compliance Plan with a cement/bentonite grout mixture so as to prevent the preferential migration of fluids in the area of the borehole. Certification of each plugging shall be reported in accordance with Provision 14 of Attachment B of this Compliance Plan. The plugging of wells shall be in accordance with 16 TAC Chapter 76 dealing with Well Drilling, Completion, Capping and Plugging.
19. A well's screened interval shall be appropriately designed and installed to meet the well's specific objective (i.e., either DNAPL, LNAPL, both, or other objective of the well). All wells designed to detect, monitor, or recover DNAPL must be drilled to intercept the bottom confining layer of the aquifer. The screened interval to detect DNAPL should extend from the top of the lower confining layer to above the portion of the aquifer saturated with DNAPL. The screened interval for all wells designed to detect, monitor, or recover LNAPL must extend high enough into the vadose zone to provide for fluctuations in the seasonal water table. In addition, the sandpacks for the recovery or monitoring well's screened interval shall be coarser than surrounding media to ensure the movement of NAPL to the well.

ATTACHMENT 10

Facility Correspondence

TCEQ Core Data Form

SECTION I: General Information

1. Reason for Submission Example: new wastewater permit; IHW registration; change in customer information; etc.	
2. Attachments ___ Yes ___ No	Describe Any Attachments: (ex: Title V Application, Waste Transporter Application, etc.)
3. Customer Reference Number-if issued CN600128128	4. Regulated Entity Reference Number-if issued RN100717677

SECTION II: Customer Information

5. Customer Role - As it relates to the Regulated Entity Listed on this Form	
TNRCC Use Only	___ Superfund ___ PST ___ Responent
6. General Customer Information ___ New Customer ___ Change to Customer Info ___ Change in Regulated Entity Ownership ___ No Change* *If "No Change" and Section 1 is complete, skip to Section III - Regulated Entity Information.	
7. Type of Customer: CO	
8. Customer Name (if an individual, please print last name first) Safety-Kleen Systems Inc	
9. Mailing Address: 1580 Industrial Dr Missouri City, TX 77489-1007	
10. Country Mailing Information (if outside USA) USA	11. E-Mail Address (if applicable)
12. Telephone Number (281) 208-6500	13. Extension or Code
14. Fax Number	
15. Fed Tax ID: 396090019	16. State Franchise Tax ID: 411319255
17. Duns Number: 53976551	
18. No. of Employees: 501+ 50+	19. Independently Owned/Operated: N

SECTION III Regulated Entity Information

20. General Regulated Entity Information ___ New Regulated Entity ___ Change to Regulated Entity Information ___ No Change* *If "No Change" and Section I is complete, skip to Section IV - Preparer Information.	
21. Regulated Entity Name (if an individual, please print last name first) Safety-Kleen Missouri City 6 073 02	
22. Street Address: 1580 Industrial Dr Missouri City, TX 77489	

23. Mailing Address: 5243 Sinclair Rd San Antonio, TX 78222															
24. E-Mail Address															
25. Telephone Number: (281) 499-9626		26. Fax Number - if applicable (281) 261-4542													
28. Primary SIC Code 7389	29. Secondary SIC Code	30. Primary NAIC Code	31. Secondary NAIC Code												
33. County: Harris															
34. Description of Physical Location 1580 INDUSTRIAL RD															
35. Nearest City Missouri City		State TX	Nearest Zip 77459												
36. Latitude (N) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Degree</th> <th style="text-align: center;">Minutes</th> <th style="text-align: center;">Seconds</th> </tr> <tr> <td style="text-align: center;">29</td> <td style="text-align: center;">50</td> <td style="text-align: center;">24</td> </tr> </table>		Degree	Minutes	Seconds	29	50	24	37. Longitude (W) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Degree</th> <th style="text-align: center;">Minutes</th> <th style="text-align: center;">Seconds</th> </tr> <tr> <td style="text-align: center;">95</td> <td style="text-align: center;">26</td> <td style="text-align: center;">24</td> </tr> </table>		Degree	Minutes	Seconds	95	26	24
Degree	Minutes	Seconds													
29	50	24													
Degree	Minutes	Seconds													
95	26	24													
38. TNRCC Programs in Which This Regulated Entity Participates <small>Not all programs have been listed. Please add to this list as needed. If you don't know or are unsure, please mark "unknown."</small> INDUSTRIAL AND HAZARDOUS WASTE GENERATION INDUSTRIAL AND HAZARDOUS WASTE DISPOSAL INDUSTRIAL AND HAZARDOUS WASTE STORAGE PETROLEUM STORAGE TANK REGISTRATION AIR NEW SOURCE PERMITS USED OIL USED OIL															

SECTION IV Preparer Information

39. Name RICARDO SAUCEDO		40. Title EHS MANAGER
41. Telephone Number 210-648-7066	42. Extension or Code NA	43. Fax Number if applicable 210-648-0212
44. E-Mail Address: RSAUCEDO@SAFETY-KLEEN.com		

**FAX TRANSMISSION****SAFETY-KLEEN SYSTEMS, INC****5243 SINCLAIR ROAD****SAN ANTONIO, TX 78222****PHONE: 210 648-0744****FAX: 210 648 0212**

(210) 648-7066

TO: CHARLES C. BURNER**FROM:** RICARDO SAUCEDO**FAX#:** (713) 767-3646**PAGES:** 20**PHONE#:** (713) 767-3616**DATE:** 6/13/03**COMMENTS:**

Mr. Burner -

Per our phone conversation, I'm providing you

A copy of our response to items identified

on 6/9/03 at the Missouri City TX Branch

Please contact me if you have any questions.

SAFETY-KLEEN

5243 SINCLAIR ROAD

SAN ANTONIO, TX 78222

210/648-0744

FAX 210/648-0212





**DOCUMENT SENT VIA OVERNIGHT MAIL
AND FAXED TO (713) 767-3646**

June 13, 2003

Mr. Charles C. Burner, C.P.G.
Environmental Investigator
Waste Section
Texas Commission on Environmental Quality
5425 Polk Avenue, Suite H
Houston TX 77023

RE: Safety-Kleen Systems, Inc.
1580 Industrial Road
Missouri City TX 77459

EPA ID No. TXD010803203
Solid Waste Registration No. 71144
Hazardous Waste Permit No. HW-50236-001

Written Follow-up to RCRA Inspection

Dear Mr. Burner:

The purpose of this letter is to provide you with a written response to the issues that you identified during the inspection that was conducted at the Safety-Kleen facility referenced above on June 9, 2003. This response is being submitted within 14 days from the date of the inspection. The items of concern and S-K response are the following:

Item No. 1:

The three branch generated waste streams (sludge/tank bottoms, solid debris and liquid debris), when shipped to Safety-Kleen, Denton, Texas, the manifest does not identify the proper 8-digit waste stream number (due to these waste streams being shipped from the Missouri City Accumulation Center along with containers from other Safety-Kleen branches). Shipping documents for Missouri City TX branch generated containers must properly identify the 8-digit number assigned to each waste stream in box "I" of the manifest.

Safety-Kleen Response to Item No. 1:

In order to correct this deficiency, containers with branch generated waste from the Missouri City TX branch will be shipped on a separate stand-alone hazardous waste

SAFETY-KLEEN CORP.

5243 SINCLAIR ROAD

SAN ANTONIO, TX 78222

210-648-0744

FAX 210-648-0212



manifest every time that these are shipped to the Safety-Kleen, Denton TX facility. We are attaching a copy of the internal memorandum where the branch and Accumulation Center personnel were instructed about the new procedures (see Enclosure No. 1). In addition, we are providing you with a copy of a manifest and Land Disposal Restriction (LDR) document that is being used for the next shipment of sludge debris drums (see Enclosure No. 1).

Item No. 2:

Two waste streams ("910100" and "990001") with the old six-digit classification are still showing in the Notice of Registration (N.O.R.). These two waste stream need to be inactivated from the N.O.R.

Safety-Kleen Response to Item No. 2:

Safety-Kleen has made several attempts to inactivate these two waste streams (most recent via a letter dated June 5, 2003). On June 11, 2003, we contacted the TCEQ, Registration and Reporting Section, Austin TX to inquire about the inactivation of these two waste streams. We talked to Ms. Betty Bell and were told that these two waste streams cannot be inactivated since they are linked to two active 8-digit waste streams in the N.O.R. She explained to us that the inactivation of the 6-digit waste streams would inactivate the 8-digit waste stream that replaces the 6-digit waste streams (even though these two waste streams are still showing in the N.O.R. as "active," they are no longer being used by the branch). A copy of the latest letter provided to the TCEQ requesting the inactivation of these two waste streams is being provided in Enclosure No. 2.

Item No. 3:

8-digit waste stream (39824091) is showing in the annual waste summary report for CY 2002, but is not shown in the most recent N.O.R.

Safety-Kleen Response to Item No. 3:

This waste stream is identified in the most recent RCRA Part B permit renewal (Waste stream No. 009, Table IV.B of the Part B application) and is identified as Vacuum Heel Sludge. In order to incorporate this waste stream into the N.O.R., a TCEQ Form 0002A has been provided to the TCEQ, Registration and Reporting Section requesting to add this waste stream into the N.O.R. A copy of the documentation provided the TCEQ, Austin TX office for this request is being included in enclosure No. 3.

Item No. 4:

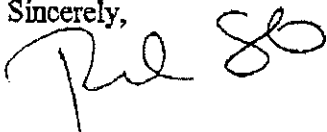
A monitoring well (MW-01) that was recently sampled as required under the Compliance Plan, required re-marking and be renotched.

Safety-Kleen Response to Item No 4:

We did talk to the consultant that did the well sampling (ATC & Associates) and verified that the well was marked and renotched at the time the sampling was done on May 29, 2003.

Please contact me at (210) 648-7066 if you have any questions or require any additional information.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ricardo Saucedo', with a stylized 'S' at the end.

Ricardo Saucedo, P.E.
Environmental Solutions Manager

Enclosures

ENCLOSURE No.1



MEMORANDUM

To: Rex Hartman
Joe Washington
John Vadon

From: Ricardo Saucedo *RS*

Date: June 10, 2003

Re: Manifesting Branch Debris

Rex/Joe:

As noted during the recent TCEQ inspection, review of the manifest documents for Missouri City branch generated waste (sludge/tank bottoms, liquid and solid debris) presently, when drums are generated by the branch, they are sent to the A/C and in turn, are shipped to the Denton R/C on a waste manifest. The problem with this is that drums generated by Missouri City are sent to Denton on a manifest along with drums from other Texas branches. This practice does not identify the proper 8-digit waste code assigned to the waste streams listed above and does not allow proper tracking of the waste streams that are generated by the Missouri City branch.

In order to properly segregate and account for branch generated waste from the Missouri City branch, from this point on, the following waste streams will be shipped to the R/C on a separate manifest document:

- Sludge/tank bottoms (8-digit number: 0527695H)
- Solid debris (8-digit number: 1736319H)
- Liquid debris (8-digit number: 1827409H)

Documentation of shipment of these waste streams on a stand-alone manifest will provide a tracking document identifying the 8-digit number assigned to each waste stream.

Please contact me if you have any questions.

Best Regards,

96
TEXAS NATURAL RESOURCE G-007-46
CONSERVATION COMMISSION
P.O. Box 19087
Austin, Texas 78711-3087



Please print or type. (Form designed for use on 12-inch typewriter.)

Form approved, DMB No. 2050-0088.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. TXD010803203	Manifest Document No. 97789	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address SAFETY-KLEEN SYSTEMS, INC. 1580 INDUSTRIAL ROAD MISSOURI CITY TX 77459 281 208-6520					
4. Generator's Phone ()		5. Transporter 1 Company Name SAFETY-KLEEN SYSTEMS, INC.			
		6. US EPA ID Number TXR000050930			
7. Transporter 2 Company Name		8. US EPA ID Number			
		9. Designated Facility Name and Site Address SAFETY-KLEEN SYSTEMS, INC. 1722 COOPER CREEK ROAD DENTON, TX 76208			
		10. US EPA ID Number TXD077603371			
11A. HM	11. US DOT Description (including Proper Shipping Name, Hazard Class, ID Number and Packing Group)	12. Containers No.	Type	13. Total Quantity	14. Unit, Wt/Vol
X	a. WASTE COMBUSTIBLE LIQUID, N.O.S. (PETROLEUM NAPHTHA) NA1993 PGIII EQ(D001)(ERG128)(D039) 10 LBS/GAL	29	DM	5858	P
	b.				
	c.				
	d.				
15. Special Handling Instructions and Additional Information EMERGENCY RESP 800-468-1750 (24 HR). IF UNDELIVERABLE RETURN TO GENERATOR. SK CORP AUTH'D TO USE SUBSEQUENT CARRIERS. 81500, 40355, 41015, 40582, 84815 SKDOT# A. 11556 B. C. D.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packed, marked, and labelled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations, including applicable state regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment. OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name J. C. Washington		Signature <i>J. C. Washington</i>		Month Day Year 10/6/17/03	
17. Transporter 1 Acknowledgement of Receipt of Materials					
Printed/Typed Name SAM DOXALD		Signature <i>Sam Doxald</i>		Month Day Year 01/17/03	
18. Transporter 2 Acknowledgement of Receipt of Materials					
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name		Signature		Month Day Year	

White - Original Pink - TSD Facility Yellow - Transporter Green - Generator's first copy

06/13/2003 14:06 281-288-6545

SAFETY KLEEN

PAGE 01/01

TOP COPY: GENERATOR

MIDDLE COPY: FACILITY

BOTTOM COPY: TRANSFER

K54474-R5732
LOCATION:

746

SAFETY-KLEEN
LDR NOTIFICATION FORM06/12/03 PAGE, 1
07:00:55

GENERATOR NAME: SAFETY-KLEEN SYSTEMS, INC.

MANIFEST NO.: 97709

OR SALES SERVICE NO.:

0

CUST#: 0000000000

PURSUANT TO 40 CFR 268.7(A), I HEREBY NOTIFY THAT THIS SHIPMENT CONTAINS
WASTE RESTRICTED UNDER 40 CFR PART 268 LAND DISPOSAL RESTRICTIONS (LDR).

A. GENERAL WASTE NOTIFICATION

LDR FORM LINE NO.: 1 MANIFEST PAGE/LINE# 01A OR PROFFER NO.: 0000000000 0000
SKDOT#: 0011656

EPA WASTE CODES & LDR SUBCATEGORIES (IF ANY):

D001 ICW
D039

IGNITABLE CHARACTERISTIC WASTE

TREATABILITY GROUP: NONHAZARDOUS

WASTE CONSTITUENT NOTIFICATION:

100 O-CRESOL
101 M-CRESOL (DIFFICULT TO DISTINGUISH FROM
P-CRESOL)
229 TETRACHLOROETHYLENE
237 TRICHLOROETHYLENE
250 CADMIUM
251 CHROMIUM (TOTAL)
255 LEAD
260 SILVER

-----NOTES-----
EXP NOTICE: THIS LDR EXPIRES ON 12/31/2003.

GENERATOR'S AUTHORIZED
SIGNATURENAME & TITLE
(PRINTED OR TYPED)

DATE

ENCLOSURE No. 2



CERTIFIED LETTER - 7002 0860 0002 1901 6787
RETURN RECEIPT REQUESTED

June 5, 2003

Texas Commission on Environmental Quality
Waste Evaluation Section (MC-130)
Industrial & Hazardous Waste Division
P.O. Box 13087
Austin TX 78711-3087

RE: Change in Notice of Registration

Safety-Kleen Systems, Inc.
1580 Industrial Road
Missouri City TX 77489

EPA Id. No. TXD010803203
HW Permit No. 50236
SWR No. 71144

Dear Sir/Madam:

In accordance with 30 TAC, Section 335.6 (c), we are requesting that the changes identified below be done to the N.O.R. for the facility referenced above.

Page 2 of N.O.R.:

- Inactivate the following waste streams:

"910100" and "990001"

We understand that as Large Quantity Generator, we are required to provide changes to the N.O.R. via STEERS. However, due to technical difficulties with the system, this has not been possible. Please accept these changes with this hard copy.

Please call me at 210-648-7066 if you have any questions or require any additional information.

Sincerely,

Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager

U.S. Postal Service CERTIFIED MAIL RECEIPT (Domestic Mail Only; No Insurance Coverage Provided)		OFFICIAL USE	
Postmark Here	Postage	\$	
	Certified Fee	\$	
	Return Receipt Fee		
	Endorsement Required		
	Restricted Delivery Fee		
Total Postage & Fees		\$	
Sent to TCEC		City, State, ZIP+4	
Street, Apt. No., or PO Box No.		PS Form 3800, April 2002 See Reverse for Instructions	



CERTIFIED MAIL

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT
OF THE RETURN ADDRESS. FOLD AT DOTTED LINE.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

TCEC
WASTE EVALUATION SECTION (MC-150)
IND. & HAZ. WASTE DIV.
P.O. Box 13087
Austin TX 78711-3087

2. Article Number
(Transfer from service label)

7002 0860 0002 1901 6787

PS Form 3811, August 2001

Domestic Return Receipt

102595-02-M-1035

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type

☒ Certified Mail

☐ Express Mail

☐ Registered

☒ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

ENCLOSURE No. 3



CERTIFIED MAIL - 7001 0320 0000 5225 8045
RETURN RECEIPT REQUESTED

June 10, 2003

Texas Commission on Environmental Quality
Registration & Reporting Division (MC-129)
P.O. Box 13087
Austin TX 78711-3087

Re: Safety-Kleen Systems, Inc.
1580 Industrial Road
Missouri City TX 77489

SWR No. 71144
EPA I.D. No. TXD010803203
HW Permit No. HW-50236

Update of NOR

Dear Sir/Madam:

In accordance TAC Section 335.6 (c), we are providing you with TNRCC form 0002A to add a waste streams to the NOR for the above referenced Safety-Kleen facility (waste stream No. 39824091). Please contact me at 210-648-7066 if you have any questions.

Sincerely,

Ricardo Saucedo, P.E.
Environmental, Health & Safety Manager

Enclosures

Notification For Hazardous or Industrial Waste Streams (TNRCC-0002)

TNRCC Use Only

IHW _____ CO

The TNRCC Core Data Form (TNRCC-10400) must be submitted with this form. You may copy this section as needed for each waste stream at your site. Please print or type and provide all requested information. Definitions and codes can be found in the Hazardous or Industrial Waste Form Instructions.

PART II. Notification Type and Registration Numbers

1. Notification Type (Check one)	Initial <input type="checkbox"/>	Update <input checked="" type="checkbox"/>	If this is an Initial Notification, leave registration numbers blank. If updating an existing Notice of Registration, please provide current registration numbers.	
2. Solid Waste Registration Number:	71144		3. EPA Identification Number:	T X D 0 1 0 8 0 3 2 0 3
4. Customer Reference Number:	C N		5. Regulated Entity Number:	R N
6. Company Name:	SAFETY-KLEEN SYSTEMS, INC			
7. Site Name:	SAFETY-KLEEN SYSTEMS, INC			

Section E. Waste Stream Notification

1. Texas Waste Code: (Circle Class Code *)	Sequence Number	Form Code	Class Code*	Texas Waste Code
	3 9 8 2	4 0 9	H 1 2 3	3 9 8 2 4 0 9 1
2. Waste Description and Generating Process:	CLEAN-UP OF VAC TRUCK THAT IS USED TO PICK-UP VAC WASTE FROM SAFETY-KLEEN CUSTOMERS (VAC HEEL)			
3. Date of Generation	MM 04	DD 01	YYY 2001	
4. Origin Code:	Choose one (1-7) 1 The waste was generated on-site from a product process or service activity. 2 The waste resulted from a spill clean-up, equipment decommissioning, or emergency removal by company. 3 The waste was derived from the on-site management of a nonhazardous waste. 4 The waste was received from off-site and was not recycled or treated on-site. 5 The waste was a residual from the on-site treatment, disposal or recycling of previously existing hazardous waste. 6 The waste was from a state, federal, or locally funded cleanup. 7 The waste was from a corrective action or closure.			
5. New Chemical Substance:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If this is a Class 2 or Class 3 waste generated from the production of a new chemical substance, you must attach copies of all information, documentation and rationale used to classify the waste.			
6. Waste Management Location: (Check all that apply)	Off-site <input checked="" type="checkbox"/>	On-site <input type="checkbox"/>	Provide the 3-digit unit sequence number of any On-site Waste Management Units where this waste is treated, stored or disposed. If the unit is new, leave blank, and include waste in Section G, Waste Management Unit Information.	
7. Is this waste recycled? (Check all that apply)	On-site <input type="checkbox"/>	Off-site <input checked="" type="checkbox"/>	Not recycled <input type="checkbox"/>	
If this waste is nonhazardous, skip questions 8-12 and go to Certification of Waste Stream Information. (Questions 8-12 pertain to hazardous waste only.)				

Texas Waste Code								Please provide the 8-digit Texas Waste Code from Item 1 of previous page.															
3	9	8	2	4	0	9	14																

If this waste is nonhazardous, skip Questions 8-12 and go to Certification of Waste Stream Information.																											
8. EPA Hazardous Waste Numbers: (EPA Codes)																											
9a. SIC Code:				10. Source Code:				11. System Type Code:				12. Mixed Radioactive Waste? Yes <input type="checkbox"/> No <input type="checkbox"/>															
9b. NAICS Code:				A				M																			

Certification of Waste Stream Information	
I certify that the information submitted herein is complete and accurate to the best of my knowledge.	
Print Preparer Name: <u>RICARDO SAUCEDO</u>	Telephone No.: (214) 648-7066
Preparer Signature: <u>[Signature]</u>	Date: <u>6/10/03</u>

INRCC-0002 (Rev. 07-09-02) Page 2 of 2

Notification For Hazardous or Industrial Waste Management (TNRCC-0002)

TNRCC Use Only

IHW _____ CO

The TNRCC Core Data Form (TNRCC-10400) must be submitted with this form. Please print or type and provide all requested information. Definitions and codes can be found in the Hazardous or Industrial Waste Form Instructions.

PART I. Notification Type and Registration Numbers

1. Notification Type (Check one)	Initial <input type="checkbox"/>	Update <input checked="" type="checkbox"/>	<ul style="list-style-type: none"> If this is an Initial Notification, leave registration numbers blank. If updating an existing Notice of Registration, please provide current registration numbers.
2. Solid Waste Registration Number:	71144		
3. EPA Identification Number:	TXD010803203		
4. Customer Reference Number:	CN		
5. Regulated Entry Number:	RN		

Section A. Company Information

1. Company Name:	SAFETY-KLEEN SYSTEMS, INC.			
2. Site Name:	SAFETY-KLEEN SYSTEMS, INC.			
3. Registration Type: (Check all that apply)	Generator <input checked="" type="checkbox"/>	Receiver <input checked="" type="checkbox"/>	Transporter <input checked="" type="checkbox"/>	Recycler <input type="checkbox"/>
4. Name of Contact:	First Name: RICARDO		Telephone: (210) 648-7065	
	Last Name: SAUCEDO		Email: RSAUCEDO@SAFETY-KLEEN.COM	
	Title: EHS MGR.		Fax Number: (210) 648-0212	
5. Waste Handler Status: (Check all that apply)	Not Applicable <input type="checkbox"/>	Permitted TSD <input checked="" type="checkbox"/>	Interim TSD <input type="checkbox"/>	Recycler <input type="checkbox"/>
				Other <input type="checkbox"/>

Section B. Generator Information

G If your facility does not fit the definition of a "Generator", check this box and go to Section C.

1. Generator Type (Check One)	Industrial <input checked="" type="checkbox"/>	Nonindustrial/Municipal <input type="checkbox"/>	Railroad Commission <input type="checkbox"/>
2. Hazardous Waste Generation Status (Check One)	<input checked="" type="checkbox"/> Large Quantity Generator (LQG)	<ul style="list-style-type: none"> 2200 pounds (1000 kilograms) or more of hazardous waste and/or 2.2 pounds (1 kilogram) or more of acutely hazardous waste 	
	<input type="checkbox"/> Small Quantity Generator (SQG)	<ul style="list-style-type: none"> between 220 and 2200 pounds (100 and 1000 kilograms) of hazardous waste and less than 2.2 pounds (1 kilogram) of acutely hazardous waste 	
	<input type="checkbox"/> Industrial Conditionally Exempt Small Quantity Generator (CESQG)	<ul style="list-style-type: none"> 220 pounds (100 kilograms) or less of hazardous waste and less than 2.2 pounds (1 kilogram) of acutely hazardous waste and 220 pounds (100 kilograms) or more of industrial Class 1 waste 	

Section C. Receiver Information

G If your facility does not fit the definition of a "Receiver", check this box and go to Section D.

1. Facility Category: (Check One)	Commercial <input checked="" type="checkbox"/>	Captive <input type="checkbox"/>	Captured <input type="checkbox"/>	Other <input type="checkbox"/>	
2. Class of Waste Received (Check all that apply)	Hazardous <input checked="" type="checkbox"/>	Class 1 <input checked="" type="checkbox"/>	Class 2 <input checked="" type="checkbox"/>	Class 3 <input checked="" type="checkbox"/>	Nonindustrial/Municipal <input type="checkbox"/>
3. Do you receive hazardous waste for treatment, storage or disposal?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
4. Do you receive manifested Class 1 waste for treatment, storage or disposal?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
5. If you receive waste from off-site and recycle it, answer the following:					
a.	Describe the material(s) to be recycled. VARIOUS. INCLUDING BUT NOT LIMITED TO WASTE SOLVENTS, PAINT WASTE / THINNER ETC.				
b.	Describe any storage of the material(s) prior to recycling. (If no storage occurs, write "NONE".) MATERIALS STORED IN PERMITTED UNITS				
c.	Describe how the material(s) will be recycled. MATERIALS ARE SENT TO OTHER SAFETY-KLEEN FACILITIES FOR RECYCLING				
d.	Describe the purpose/function of the material(s) in the recycling activity. VARIES. THE MATERIAL ITSELF ARE RECYCLED				

Section D. Transporter Information

G If your facility does not fit the definition of a "Transporter", check this box and go to Certification of Company Information.

1. Carrier Classification: (Check all that apply)	a. Do you transport for hire? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	b. Do you transport your own waste? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	c. Is this site a Transfer Facility? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
2. Types of waste transported: (Check all that apply)	Hazardous* <input checked="" type="checkbox"/>	Class 1 <input checked="" type="checkbox"/>	Class 2 <input checked="" type="checkbox"/>	Class 3 <input type="checkbox"/>	*Other <input type="checkbox"/> *Refer to Instructions

* To transport hazardous waste you must have an EPA Identification Number. See PART IV, Notification of Regulated Waste Activity.

Certification of Company Information

I certify that the information submitted herein is complete and accurate to the best of my knowledge.

Print Preparer Name: RICARDO SAUCEDO	Telephone No.: (610) 648-7066
Preparer Signature: [Signature]	Date: 6/10/03

TCEQ Core Data Form

TCEQ Use Only

If you have questions on how to fill out this form or about our Central Registry, please contact us at 512-239-5175.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

SECTION I: General Information

1. Reason for Submission <i>Example: new wastewater permit; IHW registration; change in customer information; etc.</i>			
Add waste streams into N.O.R.			
2. Attachments		Describe Any Attachments; (ex: Title V Application, Waste Transporter Application, etc.)	
X	YES	NO	TNRCC Form 0002 (Notification of Waste Streams)
3. Customer Reference Number-if issued		4. Regulated Entity Reference Number-if issued	
CN	(9 digits)	RN	(9 digits)

SECTION II: Customer Information

5. Customer Role (Proposed or Actual) ~ As It Relates to the Regulated Entity Listed on This Form			
Please check one of the following:			
Occupational Licensee	Owner	Operator	X Owner and Operator
TCEQ Use Only	Volunteer Cleanup Applicant	Other	
6. General Customer Information	Superfund	PST	Respondent
New Customer	X	Change to Customer Information	
Change in Regulated Entity Ownership		No Change *	
*If No Change and Section I is complete, skip to Section III - Regulated Entity Information.			
7. Type of Customer:			
Individual	X	Partnership	Sole Proprietorship - D.B.A.
Corporation		State Government	Federal Government
County Government		City Government	Other Government
Other:			
8. Customer Name (If an individual, please print last name first)		If new name, enter previous name:	
Safety-Kleen Systems Inc.			
9. Mailing Address:			
1580 Industrial Road			
City		State	ZIP
Missouri City		Texas	77459
10. Country Mailing Information if outside USA		11. E-Mail Address if applicable	
12. Telephone Number		13. Extension or Code	14. Fax Number if applicable
281-208-6500			281- 281-208-6510
15. Federal Tax ID (9 digits)	16. State Franchise Tax ID Number if applicable		17. DUNS Number if applicable (9 digits)
396090019			
18. Number of Employees			19. Independently Owned and Operated?
0-20	X	21-100	Yes
101-250		251-500	No
501 and higher			

SECTION III: Regulated Entity Information

20. General Regulated Entity Information			
New Regulated Entity	X	Change to Regulated Entity Information	No Change*
*If "No Change" and Section I is complete, skip to Section IV - Preparer Information.			

21. Regulated Entity Name (If an individual, please print last name first) 1580 Industrial Road					
22. Street Address (No PO Boxes)		1580 Industrial Road			
		City		State	ZIP
		Missouri City		Texas	77459
23. Mailing Address		SAME			
		City		State	ZIP
					ZIP + 4
24. E-Mail Address:					
25. Telephone Number		26. Extension or Code		27. Fax Number if applicable	
281-208-6500				281-208-6510	
28. Primary SIC Code (4 digits)		29. Secondary SIC Code (4 digits)		30. Primary NAICS Code (5 or 6 digits)	
7389		5084		56199	
				31. Secondary NAICS Code (5 or 6 digits)	
				42183	
32. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description) Serves hazardous waste generators.					
Questions 33 - 37 address geographic location. Please refer to the instructions for applicability.					
33. County		Fort Bend			
34. Description of Physical Location Located on the north side of Industrial Drive at Gessner Rd.					
35. Nearest City		State		Nearest Zip	
Missouri City		TX		77459	
36. Latitude (N)		37. Longitude (W)			
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	37	13	95	32	20
38. TCEQ Programs In Which This Regulated Entity Participates Not all programs have been listed. Please add to this list as needed. If you don't know or are unsure, please mark "Unknown". If you know a permit or registration # for this entity, please write it below the program.					
Animal Feeding Operation		Petroleum Storage Tank		Water Rights	
Title V - Air		Wastewater Permit			
X Industrial & Hazardous Waste		Water Districts			
Municipal Solid Waste		Water Utilities		Unknown	
New Source Review - Air		Licensing - TYPE(s)			
Section IV: Preparer Information					
39. Name Ricardo Saucedo			40. Title EHS Manager		
41. Telephone Number 210-648-7066		42. Extension or Code		43. Fax Number if applicable 210-648-0212	
44. E-mail Address: Rsaucedo@safety-kleen.com					

SENDER: COMPLETE THIS SECTION

- Complete Items 1, 2, and 3. Also complete Item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

TCEO
REG (RECORDING DIV (MKTG))
P.O. Box 13007
Austin TX 78711-3087

2. Article Number

(Transfer from service label)

7001 0320 0000 5225 8045

PS Form 3811, August 2001

Domestic Return Receipt

EACPR103-Z-0085

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from Item 1?

☐ Yes

If YES, enter delivery address below:

☐ No

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☒ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

U.S. Postal Service

CERTIFIED MAIL RECEIPT

(Domestic Mail Only; No Insurance Coverage Provided)

PLACE TICKET AT TOP OF ENVELOPE OR THE RIGHT
OF THE RETURN ADDRESS, HOLD AT POSTED LINE**CERTIFIED MAIL**

5408 5225 0000 0220 7001

Postage \$

Certified Fee

Return Receipt Fee
(Endorsement Required)Restricted Delivery Fee
(Endorsement Required)

Total Postage & Fees \$

Postmark
Here

Sent To

TCEO - REG (MKTG. DIV.)

Street, Apt. No.,

or PO Box No.

City, State, ZIP+4

PS Form 3811, August 2001

See Reverse for Instructions

From: "Hal Kuntz" <kuntz73@atc-enviro.com>
To: "Charles Burner" <cburner@tceq.state.tx.us>
Date: 5/15/03 12:01PM
Subject: CME sampling - Safety-Kleen - Missouri City, Texas

Charles,

I am including some of the requested information in this email and am messengering the remaining documents to your attention. A number of requested documents either do not exist or are not in my possession. I have made a list of those documents below.

The sampling event is scheduled for May 29, 2003 (Thursday) at 9:00am.

The staff that will be conducting the sampling are James White and Rodney Nunes. They can be reached at (281) 240-0154, (832) 259-4354, and (281) 621-2558. I will be on call in case you need me and can be reached at (281) 240-0154 or (713) 899-6507.

Mr. John Vadon is the site contact and can be reached at (281) 499-9626.

The autocad drawing of the site and latest groundwater elevation and analytical tables are attached.

The analytical laboratory that is currently used is: Analytical Services, Inc., 110 Technology Parkway, Norcross, Georgia 30092, (770) 734-4200
Previous lab was: Safety-Kleen Laboratory, Elk Grove Village, Illinois

The analytes that are sampled for are: Chlorobenzene and Xylenes by EPA Method 8260B.

The documents that either do not exist or are not in my possession are:

- ◊ Cross-sections
- ◊ Latest Application for Major Amendment to Compliance Plan
- ◊ Much of the correspondence and records of communication for past two years with Agency
- ◊ Geological and hydro-geological sections of the permit application
- ◊ Initial Ground Water Assessment Report
- ◊ Most recently approved Sampling and Analysis Plan (SAP)

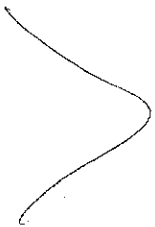
The client is attempting to find these items in their files, but is not sure if it can be found, if it even exists.

Please feel free to call if you have any other data requests. I will be forwarding the latest report and other requested information at my disposal.

Thanks,

Hal

Hal G. Kuntz II
Senior Hydrogeologist
ATC Associates, Inc.
(281) 240-0154 - work
(713) 899-6507 - cell



CC: "Gary Risse" <grisse@safety-kleen.com>

MW - 1 5.25, 5.42

2 4.55, 5.71

3 3.67, 4.51

5 6.99, 4.51

6 3.86, 3.67

7 3.17, 4.20

RW 1 4.11, 4.14

8 4.63, 5.46

9 4.98, 5.21

Charles,

I am including some of the requested information in this email and am messengering the remaining documents to your attention. A number of requested documents either do not exist or are not in my possession. I have made a list of those documents below.

The sampling event is scheduled for May 29, 2003 (Thursday) at 9:00am.

The staff that will be conducting the sampling are James White and Rodney Nunes. They can be reached at (281) 240-0154, (832) 259-4354, and (281) 621-2558. I will be on call in case you need me and can be reached at (281) 240-0154 or (713) 899-6507.

Mr. John Vadon is the site contact and can be reached at (281) 499-9626.

The autocad drawing of the site and latest groundwater elevation and analytical tables are attached.

The analytical laboratory that is currently used is: Analytical Services, Inc., 110 Technology Parkway, Norcross, Georgia 30092, (770) 734-4200

Previous lab was: Safety-Kleen Laboratory, Elk Grove Village, Illinois

The analytes that are sampled for are: Chlorobenzene and Xylenes by EPA Method 8260B.

The documents that either do not exist or are not in my possession are:

Cross-sections

Latest Application for Major Amendment to Compliance Plan

Much of the correspondence and records of communication for past two years with Agency

Geological and hydro-geological sections of the permit application

Initial Ground Water Assessment Report

Most recently approved Sampling and Analysis Plan (SAP)

The client is attempting to find these items in their files, but is not sure if it can be found, if it even exists.

Please feel free to call if you have any other data requests. I will be forwarding the latest report and other requested information at my disposal.

Thanks,

Hal

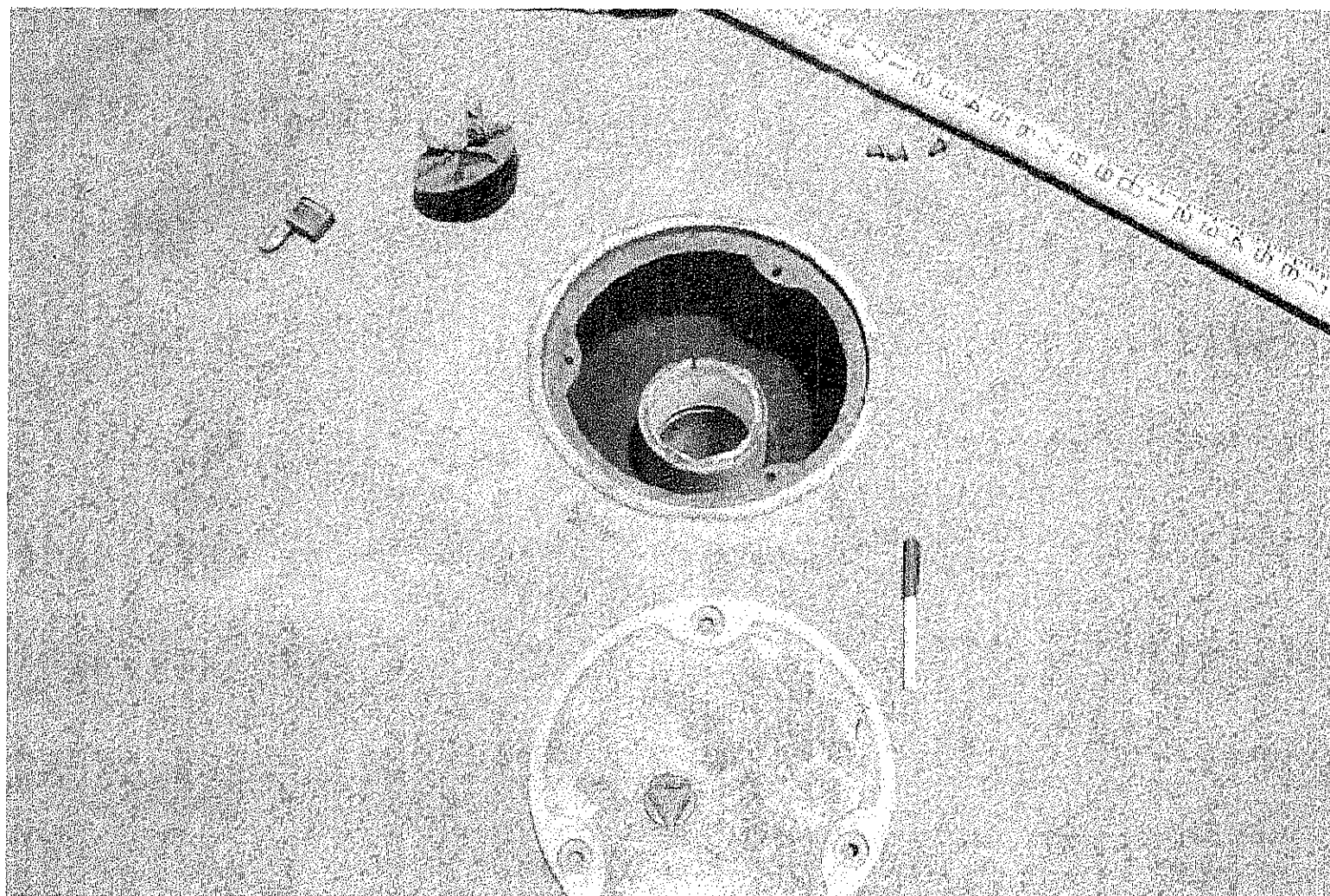
Hal G. Kuntz II

Senior Hydrogeologist

ATC Associates, Inc.

(281) 240-0154 - work

(713) 899-6507 - cell



Safety-Kleen Missouri City,

SWR 71144

Photo documenting addition of measurement reference mark on Well MW-1.

Date of repair 5/29/2003

ATTACHMENT 11

Field Notes

**FAX COVER SHEET**

TO: Charles Burner **Date:** 6/17/03
FROM: Hal G. Kuntz II **Fax #:** 713-767-3520
SUBJECT: Safety-Kleen **Pages:** 37
Missouri City, Texas

Charles,

Here are the field forms, equipment calibration sheet, chain of custody, and lab data for the Safety-Kleen site located at 1580 Industrial Boulevard in Missouri City, Texas.

Let me know if you need any additional information.

Thanks,

Hal G. Kuntz II

Please contact me if you did not receive the entire fax.
(281) 240-0154 - office
(713) 899-6507 - cell



Attn Tom Forbes

ENVIROSUPPLY & SERVICE, INC.
HORIBA U-22 WATER QUALITY CHECKER
HORIBA U-10 WATER QUALITY CHECKERINSTRUMENT MODEL Horiba U-22SERIAL NUMBER 9282012/927202COMPANY NAME ATC AssociatesCONTACT PERSON James White
PHONE NUMBER _____RENTAL PERIOD FROM: 5-29-03TO: 5-30-03

RETURN SHIP DECLARED VALUE: \$ _____

SHIPPING WEIGHT: _____

HORIBA U-10 WATER QUALITY CHECKER

- ☐ READOUT
- ☐ PROBE
- ☐ INSTRUCTION MANUAL
- ☐ STND. SOLUTION (100-4)
- ☐ REFERENCE SOLUTION
- ☐ CALIBRATION BEAKER
- ☐ CARRYING CASE

- ☐ CARRYING STRAP
- ☐ D.O. SENSOR TOOL
- ☐ ESS LABELS
- ☐ 9 V BATTERY
- ☐ FLOW THRU CELL
- ☐ _____
- ☐ _____

- ☐ Ph READING _____
- ☐ TEMP. READING _____
- ☐ COND. READING _____
- ☐ D.O. READING _____
- ☐ TURB. READING _____
- ☐ _____
- ☐ _____

HORIBA U-22 WATER QUALITY CHECKER

- ☒ READOUT
- ☒ PROBE
- ☒ INSTRUCTION MANUAL
- ☒ STND. SOLUTION (100-4)
- ☐ REFERENCE SOLUTION
- ☒ CALIBRATION BEAKER
- ☒ CARRYING CASE

- ☐ CARRYING STRAP
- ☐ D.O. SENSOR TOOL
- ☐ ESS LABELS
- ☒ 9 V BATTERY
- ☒ FLOW THRU CELL
- ☐ _____
- ☐ _____

- ☒ Ph READING 4.00
- ☒ TEMP. READING 23°C
- ☒ COND. READING 4.49 mS/cm
- ☒ D.O. READING 8.39 mg/L
- ☒ TURB. READING 0
- ☒ ORP READING 231 mV
- ☒ TDS READING 2.9 g/L

INSTRUMENT INSPECTED BY: Chris PennellTODAY'S DATE: 5-29-03INSTRUMENT READINGS: SEE ABOVE

COMMENTS: _____

VERIFIED BY: CPCALIBRATION SOLUTION: AUTO CAL

ENVIROSUPPLY & SERVICE CHECKS EACH INSTRUMENT IN OUR SERVICE DEPARTMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS. SHIPPING AND ENVIRONMENTAL CONDITIONS MAY AFFECT CALIBRATION, ENVIROSUPPLY & SERVICE RECOMMENDS THAT YOU CALIBRATE THE INSTRUMENT TO MANUFACTURES SPECIFICATIONS PRIOR TO USE.

PICKED UP BY: Shup UPSDATE: 5-27 RETURNED BY: _____
SHARATA/SALES/CKOUTHORDATE: 6-3-03



FIELD NOTES

PROJECT NAME: SK - Missouri City
PROJECT NUMBER: 73-75115.0005
TASK NUMBER: 73001
ACTIVITY DESCRIPTION: Horizontal and Sample

DATE: 5-29/02
PERSONNEL: JAMES, Tom
WEATHER: HOT

[illegible]

Purge Calculations: 6" Wells (TD-DTW) x 4.5 = Purge Amount
4" Wells (TD-DTW) x 1.96 = Purge Amount
2" Wells (TD-DTW) x 0.49 = Purge Amount

SAMPLING INFORMATION

TIME	WELL I.D.	ANALYSIS
13:42	MW-9	
14:20	MW-5	
14:22	MW-2	
13:15	MW-8	
16:35	MW-3	
16:26	MW-1	
14:55	RW-1	
15:45	MW-6	
16:25	MW-7	
1630	grout Blank	

Laboratory: ASI
Sample Date: 5/22/03
Ship Date: 5/29/03

DRUMS	
Soil	
H2O	
PSH	

Additional Comments/Notes:

FIELD INFORMATION FORM

Site Name: _____

Site No.: _____ Sample Point: HW-1 Sample ID: _____

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: _____

PURGE INFO

PURGE DATE (MM DD YY) _____ PURGE TIME (24Hr Hr Clock) _____ ELAPSED HRS (hours/min) _____ WATER VOL IN CASING (Gallons) _____ ACTUAL VOL PURGED (Gallons) _____ WELL VOL PURGED _____

Notes: For Passive Sampling, replace "Water Vol in Casing" and "Well Vol Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vol Purged. Mark changes, record field data, below.

Purging and Sampling Equipment ... Dedicated: ☒ Y or ☐ N Filter Device: ☒ Y or ☐ N 0.45 μ or _____ μ (electro or filter in)

Purging Device: _____ A-Submersible Pump D-Boiler Filter Type: _____ A-In-line Disposable C-Vacuum

Sampling Device: _____ B-Peristaltic Pump E-Piston Pump B-Pressure X-Other _____

X-Other: _____ C-QED Bladder Pump F-Dipper/Bottle Sample Tube Type: _____ A-Teflon C-PVC X-Other: _____

B-Stainless Steel D-Polypropylene

WELL DATA

Well Elevation (at TOC) _____ (ft/mst) Depth to Water (DTW) (from TOC) 1150 (ft) Groundwater Elevation (site datum, from TOC) _____ (ft/mst)

Total Well Depth (from TOC) 199 (ft) Slick Up (from ground elevation) _____ (ft) Casing ID _____ (in) Casing Material _____

Notes: Total Well Depth, Slick Up, Casing ID, etc. are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (μ mhos/cm @ 25°C)	Temp. (°C)	Turbidity (nu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:58	0.5	4.610	11105	24.0	2.671	1.99	5141010	1150
11:04	0.5	4.65	11104	24.0	1.136	1.89	51501	12612
11:04	0.5	4.615	11104	23.9	1.89	1.99	51691	13113
11:08	0.5	4.910	11105	23.9	1.5710	1.910	516121	13518
11:10		5.112	11105	23.8	1.260	1.83	51551	1397
11:14		5.210	11104	23.5	1.1106	1.715	51471	14113
11:16		5.212	11104	23.8	1.1157	1.72	51431	14213
11:18		5.217	11103	23.1	1.1217	1.614	513171	14218
11:21		5.311	11102	23.7	1.1210	1.512	513121	14311
11:23		5.313	11102	23.7	1.1149	1.416	512191	14311

Suggested range for 3 consec. readings or note Permit/State requirements: pH +/- 0.2 Conductance +/- 3% Temp. - Turbidity - D.O. +/- 10% eH/ORP +/- 25 mV Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/State. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

FIELD DATA

SAMPLE DATE (MM DD YY) _____ pH (std) _____ CONDUCTANCE (μ mhos/cm @ 25°C) _____ TEMP. (°C) _____ TURBIDITY (nu) _____ DO (mg/L - ppm) _____ eH/ORP (mV) _____ Other: _____

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/State).

Sample Appearance: _____ Odor: _____ Color: _____ Other: _____

Weather Conditions (required daily, or as conditions change): _____ Direction/Speed: _____ Outlook: _____ Precipitation: ☒ Y or ☐ N

Specific Comments (including purge/well volume calculations if required): _____

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

_____/_____/_____
Date Name Signature Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

Site Name: _____		Sample Point: <u>HW-2</u>		This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned in the laboratory).		Laboratory Use Only/Lab ID: _____	
Site No.: _____		Sample ID: _____					

PURGE INFO	PURGE DATE (MM DD YY)	PURGE TIME (24 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLS PURGED
	<small>Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.</small>					

PURGE/SAMPLE EQUIPMENT	Purging and Sampling Equipment ... Dedicated: <input type="checkbox"/> Y or <input type="checkbox"/> N		Filter Device: <input type="checkbox"/> Y or <input type="checkbox"/> N		0.45 μ or _____ μ (circle or fill in)	
	Purging Device: _____	A- Submersible Pump	D- Bailor	Filter Type: _____	A- In-line Disposable	C- Vacuum
	Sampling Device: _____	B- Peristaltic Pump	E- Plunger Pump		B- Pressure	X- Other: _____
	X- Other: _____	C- QED Bladder Pump	F- Dipper/Bottle	Sample Tube Type: _____	A- Teflon	C- PVC
					B- Stainless Steel	D- Polypropylene

WELL DATA	Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
	Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID (in)
	<small>Note: Total Well Depth, Stick Up, Casing ID, etc. are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.</small>		

STABILIZATION DATA (Optional)	Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (μ mhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
	111513	10	618	19131	23.8	1215	1813	1211	11154
	111518	10	618	19131	23.8	115144	1317	1311	113518
	112013	15	606	19313	24.0	11104	10.0	11910	1131919
	112018	15	608	19216	24.0	112218	11.2	1124	1141615
	112110	15	608	19241	24.3	111513	10.8	1128	1151010
	112112	15	608	19221	23.9	111618	10.8	1129	1151115
	112114	15	608	19210	23.9	111416	10.4	1135	1151319
	112116	15	608	19210	28.9	11120	10.0	1140	111
	112118	15	11	111	111	111	111	111	111
<small>Suggested range for 3 consec. readings or note Permit/State requirements: pH: ± 0.2; Conductance: $\pm 1-3\%$; Temp: -; Turbidity: -; D.O.: $\pm 10\%$; eH/ORP: ± 25 mV; DTW: Stabilize</small>									

<small>Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/State. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.</small>									
--	--	--	--	--	--	--	--	--	--

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (μ mhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L - ppm)	eH/ORP (mV)	Other: Units

<small>Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/State).</small>			
--	--	--	--

Sample Appearance: _____	Odor: _____	Color: _____	Other: _____
Weather Conditions (required daily, or as conditions change): _____	Direction/Speed: _____	Outlook: _____	Precipitation: <input type="checkbox"/> Y or <input type="checkbox"/> N
Specific Comments (including purge/well volume calculations if required): _____			

FIELD COMMENTS	

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

_____	_____	_____	_____
Date	Name	Signature	Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

Site Name: _____

Site No.: _____ Sample Point: MW-3 Sample ID: _____

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample container (i.e., with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: _____

PURGE INFO: 05/28/03

PURGE DATE (MM DD YY): _____ PURGE TIME (2400 Hr Clock): _____ ELAPSED HRS (hrs:min): _____ WATER VOL IN CASING (Gallons): _____ ACTUAL VOL PURGED (Gallons): _____ WELL VOL PURGED: _____

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below:

PURGING AND SAMPLING EQUIPMENT: Purging and Sampling Equipment: Y or N Filter Devices: Y or N 0.45 µ or _____ µ (circle or fill in)

Purging Device: _____ A-Submersible Pump D-Butler
B-Peristaltic Pump E-Piston Pump
C-QED Bladder Pump F-Dipper/Bottle

Sampling Device: _____ Filler Type: _____ A-In-line Disposable C-Vacuum
B-Pressure X-Other: _____

X-Other: _____ Sample Tube Type: _____ A-Teflon C-PVC X-Other: _____
B-Stainless Steel D-Polypropylene

WELL DATA: Well Elevation (at TOC): _____ Depth to Water (DTW) (from TOC): 1187 (ft) Groundwater Elevation (site datum, from TOC): _____ (ft)

Total Well Depth (from TOC): 204 (ft) Stick Up (from ground elevation): _____ (ft) Casing ID: 4 (in) Casing Material: PVC

Note: Total Well Depth, Stick Up, Casing ID, etc. are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:06	1"	6.45	1109	24.9	11200	166	127	1187
10:10	1"	6.45	1111	24.1	1907	146	1220	1187
10:18	1"	6.49	1111	24.8	1544	139	1300	1187
10:12	1"	6.47	1140	23.9	392	143	1410	1187
10:16	1"	6.35	1113	23.3	116	137	1490	1187
10:20	1"	6.35	1106	23.3	123	133	1490	1187
10:26	1"	6.26	1103	23.5	155	125	1450	1187
10:28	1"	6.23	1106	23.5	189	125	1400	1187
10:30	1"	6.23	1106	23.8	1100	124	1340	1187
10:32	1"	6.23	1103	23.8	1100	123	1340	1187

Suggested range for 3 consec. readings or note Permit/State requirements: pH: +/- 0.2 Conductance: +/- 3% Temp: - Turbidity: - DO: +/- 10% eH/ORP: +/- 25 mV DTW: Stabilize

Stabilization Data Fields are Optional (i.e., complete stabilization readings for parameters required by WM, State, or Permit. These fields can be used where four (4) field measurements are required by State/Permit/State. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to State. If more fields above are needed, use separate sheet or form.

FIELD DATA: SAMPLE DATE (MM DD YY): _____ pH (std): _____ CONDUCTANCE (µmhos/cm @ 25°C): _____ TEMP. (°C): _____ TURBIDITY (ntu): _____ DO (mg/L - ppm): _____ eH/ORP (mV): _____ Other: _____

Final Field Readings are required (i.e., record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/State).

Sample Appearance: _____ Odor: _____ Color: _____ Other: _____

Weather Conditions (required daily, or as conditions change): _____ Direction/Speed: _____ Outlook: _____ Precipitation: Y or N

Specific Comments (Including purge/well volume calculations if required): _____

FIELD COMMENTS: _____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

_____/_____/_____
Date Name Signature Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy

STL-8029WM R: 12/00

- 123 23/70 19 2/9 3/9 7

FIELD INFORMATION FORM

Site Name: _____		Sample Point: <u>NW-5</u>		This form is to be completed, in addition to any State Form. The Field Form is submitted along with the Chain of Custody Form that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).		Laboratory Use Only/Lab ID: _____	
Site No.: _____		Sample ID: _____					

PURGE INFO	PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hours:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOL PURGED
	<i>Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.</i>					

PURGE/SAMPLE EQUIPMENT	Purging and Sampling Equipment ... Dedicated: <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N		Filter Device: <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N		0.25 <input type="checkbox"/> or <input type="checkbox"/> (circle or fill in)	
	Purging Device: _____	A-Submersible Pump	D-Bailer	Filter Type: _____	A-In-line Disposable	C-Vacuum
	Sampling Device: _____	B-Peristaltic Pump	E-Piston Pump		B-Pressure	X-Other: _____
	X-Other: _____	C-OED Bladder Pump	F-Dipper/Bottle	Sample Tube Type: _____	A-Teflon	C-PVC
					B-Stainless Steel	D-Polypropylene

WELL DATA	Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
	Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID
	<i>Note: Total Well Depth, Stick Up, Casing ID, etc. are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.</i>		

STABILIZATION DATA (Optional)	Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (umhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
	14:00	2 1 st	578	1.64	25.5	239	150	98	
	14:05	2 2 nd	573	1.66	25.5	150	151	98	11.33
	14:10	2 3 rd	577	1.66	25.7	108	139	89	11.54
	14:15	2 4 th	579	1.66	25.7	95.2	14.56	74	11.55
	14:18	2	5.8	1.65	25.8	68	14.95	64	11.56

Suggested range for 3 consec. readings or nois Permit/State requirements: pH -1-0.2, Conductance +/- 3%, Temp. -1-0.2, Turbidity -1-0.2, D.O. +/- 10%, eH/ORP +/- 25 mV, DTW Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25 °C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L - ppm)	eH/ORP (mV)	Other: Units

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site).

Sample Appearance: _____	Odor: _____	Color: _____	Other: _____
Weather Conditions (required daily, or as conditions change): _____	Direction/Speed: _____	Outlook: _____	Precipitation: <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N
Specific Comments (Including purge/well volume calculations if required): _____			

FIELD COMMENTS	

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date

Name

Signature

Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

Site Name:

Site No.:

Sample Point:

W-6

Sample ID:

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE DATE (MM DD YY)

PURGE TIME (24hr Hr Clock)

ELAPSED HRS (hr:min)

WATER VOL IN CASING (Gallons)

ACTUAL VOL PURGED (Gallons)

WELL VOL PURGED

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ "Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged". Mark changes, record field data, below:

Purging and Sampling Equipment ... Dedicated:

Y

 or

N

Purging Device:

Sampling Device:

X-Other:

Filter Device:

Y

 or

N

Filter Type:

Sample Tube Type:

0.45 μ or μ (whole or fill in)

A-In-line Disposable B-Pressure C-Vacuum X-Other

A-Teflon B-Stainless Steel C-PVC D-Polypropylene X-Other

Well Elevation (at TOC)

Depth to Water (DTW) (from TOC)

Groundwater Elevation (site datum, from TOC)

Total Well Depth (from TOC)

Stick Up (from ground elevation)

Casing ID

Casing Material

Note: Total Well Depth, Stick Up, Casing ID, etc. are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

Sample Time (2400 Hr Clock)

Rate/Unit

pH (std)

Conductance (SC/EC) (μ mhos/cm @ 25 °C)

Temp. (°C)

Turbidity (ntu)

D.O. (mg/L - ppm)

eH/ORP (mV)

DTW (ft)

15115

12 1"

59.6

1152

24.9

239

18.7

-11.0

15120

12 2"

59.2

1153

24.7

211

14.13

-13.1

121410

15125

12 3"

59.1

1153

24.8

111

13.07

-11.5

15130

12 4"

59.0

1152

24.8

90.6

13.35

-14.7

113411

15135

12

59.0

1152

25.1

69.6

13.69

-19

15140

12

58.8

1152

25.10

66.6

14.02

-20

13.43

Suggested range for 3 consec. readings or note Permit/State requirement:

\pm 0.2

\pm 3%

\pm 10%

\pm 25 mV

Stabilize

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

SAMPLE DATE (MM DD YY)

pH (std)

CONDUCTANCE (μ mhos/cm @ 25 °C)

TEMP. (°C)

TURBIDITY (ntu)

DO (mg/L-ppm)

eH/ORP (mV)

Other:

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site).

Sample Appearance:

Odor:

Color:

Other:

Weather Conditions (required daily, or as conditions change):

Direction/Speed:

Outlook:

Precipitation:

Y

 or

N

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date

Name

Signature

Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

FIELD INFORMATION FORM

Site Name:				This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).	Laboratory Use Only/Lab ID:
Site No.:					
Sample Point:	MAN	7	Sample ID		

PURGE INFO	PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOL PURGED

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vol Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vol Purged. Mark changes, record field data below.

PURGE/SAMPLE EQUIPMENT	Purging and Sampling Equipment ... Dedicated:	<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N	Filter Devices:	<input checked="" type="checkbox"/> Y or <input type="checkbox"/> N	<input checked="" type="checkbox"/> 0.5 μ or <input type="checkbox"/> 1 μ (circle or fill in)
	Purging Device:	A-Submersible Pump	D-Bailer	Filter Types:	A-In-line Disposable C-Vacuum
	Sampling Device:	B-Peristaltic Pump	E-Piston Pump	B-Pressure	X-Other
	X-Other:	C-QED Bladder Pump	F-Dipper/Bottle	A-Teflon	C-PVC
			Sample Tube Type:	B-Stainless Steel	D-Polypropylene

WELL DATA	Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
	Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID (in)
			Casing Material

Note: Total Well Depth, Stick Up, Casing ID, etc. are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)	Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (umhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L • ppm)	eH/ORP (mV)	DTW (ft)
	16100	1 st	5.51	134	27.8	112.0	1.99	185	
	16105	2 nd	5.52	134	22.1	192	18.3	189	14.06
	16110	3 rd	5.63	135	21.9	143	15.1	115	
	16114	4 th	5.72	136	21.8	103	13.8	97	15.02
	16118		5.73	135	22.4	79.7	12.9	117	15.33
	16121		5.65	135	22.6	43.2	12.9	128	15.46

Suggested range for 3 consec. readings or note Permit/State requirements: ± 0.2 pH, $\pm 3\%$ Conductance, $\pm 10\%$ D.O., ± 25 mV eH/ORP, Stabilize DTW

FIELD DATA	SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25 °C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L • ppm)	eH/ORP (mV)	Other:
								Units

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/State).

Sample Appearance:	Odor:	Color:	Other:
Weather Conditions (required daily, or as conditions change):	Direction/Speed:	Outlook:	Precipitation: <input checked="" type="checkbox"/> Y or <input type="checkbox"/> N
Specific Comments (including purge/well volume calculations if required):			

FIELD COMMENTS	

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

Site Name: _____

Site No.: _____

Sample Point: MW-8 Sample ID: _____

This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: _____

PURGE INFO

PURGE DATE (MM DD YY): _____ PURGE TIME (24HR Hr Clock): _____ ELAPSED HRS (hrs:min): _____ WATER VOL IN CASING (Gallons): _____ ACTUAL VOL PURGED (Gallons): _____ WELL VOLs PURGED: _____

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" or "Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged". Mark changes, record field data, below.

PURGING AND SAMPLING EQUIPMENT

Purging and Sampling Equipment ... Dedicated: ☐ Y or ☐ N Filter Device: ☐ Y or ☐ N 0.45 μ or _____ μ (circle or fill in)

Purging Device: _____ A-Submersible Pump D-Bailer A-In-line Disposable C-Vacuum
B-Peristaltic Pump E-Piston Pump B-Pressure X-Other: _____
Sampling Device: _____ C-QED Bladder Pump F-Dipper/Bottle A-Teflon C-PVC X-Other: _____
X-Other: _____ Sample Tube Type: _____ B-Stainless Steel D-Polypropylene

WELL DATA

Well Elevation (at TOC): _____ (ft/msl) Depth to Water (DTW) (from TOC): 1151 (ft) Groundwater Elevation (site datum, from TOC): _____ (ft/msl)

Total Well Depth (from TOC): 182 (ft) Stick Up (from ground elevation): _____ (ft) Casing ID (in): _____ Casing Material: _____

Note: Total Well Depth, Stick Up, Casing ID, etc are optional and can be from historical data, unless required by State/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (μ mhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:45	15 1"	6.31	1.7163	24.2	12.78	1.62	-71	115.1
12:50	15 2"	6.19	1.7163	23.4	13.73	1.21	-183	112.63
12:53	15 3"	6.16	1.7164	23.7	13.07	1.12	-187	113.88
12:56	15 4"	6.14	1.7164	23.9	12.21	1.04	-187	113.25
12:59	15	6.12	1.7171	23.9	12.48	1.02	-188	113.10
13:02	15	6.11	1.7170	23.8	11.90	1.01	-187	113.06
13:05	15	6.11	1.7169	23.8	11.66	1.01	-187	112.98
13:08	15	6.11	1.7169	23.9	11.31	1.01	-186	112.95
13:11	15	6.11	1.7169	23.9	11.95	1.01	-186	112.92

Suggested range for 3 consec. readings or note Permit/State requirement: pH ± 0.2 , Conductance $\pm 3\%$, Temp. $\pm 0.5^\circ\text{C}$, Turbidity $\pm 10\%$, eH/ORP $\pm 25\text{ mV}$, DTW Stabilize

FIELD DATA

Sample Date (MM DD YY): _____ pH (std): _____ CONDUCTANCE (μ mhos/cm @ 25°C): _____ TEMP. (°C): _____ TURBIDITY (ntu): _____ DO (mg/L - ppm): _____ eH/ORP (mV): _____ Other: _____

Final Field Readings are required. (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/State.)

Sample Appearance: _____ Odor: _____ Color: _____ Other: _____

Weather Conditions (required daily, or as conditions change): _____ Direction/Speed: _____ Outlook: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required): _____

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date

Name

Signature

Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client, PINK - Field Copy

STL-0029WM R: 12/00

FIELD INFORMATION FORM

Site Name:				This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).				Laboratory Use Only/Lab ID:	
Site No.:		Sample Point#	142-9	Sample ID					

PURGE INFO	PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (thru:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOL PURGED
	Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vol Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.					

PURGE/SAMPLE EQUIPMENT	Purging and Sampling Equipment ... Dedicated: <input type="checkbox"/> Y or <input type="checkbox"/> N		Filter Device: <input type="checkbox"/> Y or <input type="checkbox"/> N <input type="checkbox"/> 0.45 μ or <input type="checkbox"/> μ (relieve or fill in)		
	Purging Device: <input type="checkbox"/>	A-Submersible Pump B-Peristaltic Pump C-OED Bladder Pump	D-Boiler E-Piston Pump F-Dipper/Bottle	Filter Type: <input type="checkbox"/>	A-In-line Disposable B-Pressure C-Vacuum X-Other: <input type="checkbox"/>
	Sampling Device: <input type="checkbox"/>			Sample Tube Type: <input type="checkbox"/>	A-Teflon B-Stainless Steel C-PVC D-Polypropylene X-Other: <input type="checkbox"/>
	X-Other: <input type="checkbox"/>				

WELL DATA	Well Elevation (at TOC)		Depth to Water (DTW) (from TOC)		Groundwater Elevation (site datum, from TOC)	
	Total Well Depth (from TOC)		Stick Up (from ground elevation)		Casing ID (in)	Casing Material
	Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by State/Permit/Slit. Well Elevation, DTW, and Groundwater Elevation must be different.					

STABILIZATION DATA (Optional)	Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (umhos/cm @ 25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)			
	131211	13	1"	6015	1"	7138	2148	11591	1126	174	112.02	
	131216	13	2"	6013	2"	7153	2145	1914	108	178	112.38	
	131220	13	3"	6011	3"	7144	2139	12102	1011	482	112.610	
	131314	13	4"	6011	4"	7150	2137	6111	972	1831	113.018	
	131318	13		6011		7151	2131	13132	937	1841	113.210	
Suggested range for 3 consec. readings or note Permit/Slit requirements: pH ± 0.2 , Conductance $\pm 3\%$, Temp. $\pm 0.5^\circ\text{C}$, Turbidity $\pm 10\%$, eH/ORP $\pm 25\text{ mV}$, DTW Stabilize												

Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Slit, or State). These fields can be used where four (4) field measurements are required by State/Permit/Slit. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Slit. If more fields above are needed, use separate sheet or form.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L - ppm)	eH/ORP (mV)	Other: <input type="checkbox"/>

Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Slit).

Sample Appearance: <input type="checkbox"/>	Odor: <input type="checkbox"/>	Color: <input type="checkbox"/>	Other: <input type="checkbox"/>
Weather Conditions (required daily, or as conditions change):	Direction/Speed: <input type="checkbox"/>	Outlook: <input type="checkbox"/>	Precipitation: <input type="checkbox"/> Y or <input type="checkbox"/> N
Specific Comments (including purge/well volume calculations if required):			

FIELD COMMENTS			

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

Site Name:		This form is to be completed, in addition to any State Form. The Field Form is submitted along with the Chain of Custody Form that accompany the sample container (i.e., with the cooler that is returned to the laboratory).		<div style="text-align: right; font-size: x-small;">Laboratory Use Only/Lab ID: <div></div></div>
Site No.		Sample Point: RW-1	Sample ID	

PURGE INFO	PURGE DATE (MM DD YY)	PURGE TIME (24Hr Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Onions)	ACTUAL VOL PURGED (Gallons)	WELL VOLS PURGED
<i>Note: For Passive Sampling, replace "Water Vol In Casing" and "Well Vols Purged" w/ Water Vol In Tubing/Flow Cell and Tubing/Flow Cell Vals Purged. Mark changes, record field data, below.</i>						

Purging and Sampling Equipment ... Dedicated:	Y or N	Filter Device:	Y or N	0.45 µm or	µm (circle or fill in)
Purging Device	A - Submersible Pump B - Peristaltic Pump C - QED Bladder Pump X - Other:	D - Boiler E - Piston Pump F - Dipper/Bottle	Filter Type:	A - In-line Disposable B - Pressure A - Teflon B - Stainless Steel	C - Vacuum X - Other: C - PVC D - Polypropylene

Well Elevation (at TOC)		Depth to Water (DTW) (from TOC)	159 ft	Groundwater Elevation (site datum, from TOC)	
Total Well Depth (from TOC)		Slick Up (from ground elevation)		Casing ID (in)	Casing Material

Note: Total Well Depth, Slick Up, Casing Id, etc are optional and can be from historical data, unless required by State Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

Sample Time (2400 Hr Clock)	Rate/Uplift	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L • ppm)	eH/ORP (mV)	DTW (ft)
14:34	1"	6.13	.826	24.5	27.6	15.3	+82	
14:38	2"	6.09	.826	25.0	100.0	12.6	-91	12.00
14:42	3"	6.04	.826	25.1	63	12.0	-93	12.43
14:46	4"	6.01	.827	25.6	33.0	11.2	-94	12.78
14:48		5.98	.826	25.5	34.6	11.0	-96	
14:50		5.98	.825	24.6	33.3	10.7	-97	

Suggested range for 3 chance readings or more Permit/State requirements: pH +/- .2 Conductance +/- 3% Temp. ±± Turbidity ±± D.O. +/. 10%

Stabilization Data Fields are Optional (i.e., complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form.

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L•ppm)	eH/ORP (mV)	Other: Units

Final Field Readings are required (i.e., record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.)

Sample Appearance:	Odor:	Color:	Other:
Weather Conditions (required daily, or as conditions change):	Direction/Speed:	Outlook:	Precipitation: Y or N
Specific Comments (including purge/well volume calculations if required):			

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date _____	Name _____	Signature _____	Company _____	

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample. YELLOW - Returned to Client. PINK - Field Copy